

# The Mining Journal

## RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[The Mining Journal is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.]

No. 2514.—Vol. LIII.

LONDON, SATURDAY, OCTOBER 27, 1883.

WITH SUPPLEMENT. PRICE SIXPENCE BY POST, 4s. 6d. PER ANNUM

**M. JAMES H. CROFTS, STOCK AND SHARE BROKER AND MINING SHARE DEALER.**  
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.  
ESTABLISHED 1842.

BUSINESS transacted in all descriptions of MINING Stocks and Shares (British and Foreign), Consols, Bonds (Foreign and Colonial), Railways, Insurance, Assurance, Telegraph, Tramway, Shipping, Canal, Gas, Water, and Dock Shares, and all Miscellaneous Shares.  
BUSINESS negotiated in Stocks and Shares not having a general market value.

Every Friday a general and reliable List issued (a copy of which will be forwarded on application), containing closing prices of the week.

**MINES INSPECTED.**  
BANKERS: CITY BANK, LONDON—SOUTH CORNWALL BANK, ST. AUSTELL.  
TELEPHONE NUMBER 1003.

**SPECIAL DEALINGS in the following, or part:—**

40 Asia Minor, 12s. 6d.	25 Gunia (Gilt), 39s. 6	50 Prince of Wales, 11s
50 Akankoo, 5s. 6d.	100 Kingston Down, 4s.	100 Pastorena, 3s.
50 Almada, 10s. 9d.	50 Hoover Hill, 4s. 3d.	20 Rio Tinto, 20s. 3d.
20 Bedford Unit., 21 10s.	100 Home Mines Trust, 11s. 3d.	50 Ruby, 28s. 9d.
50 Bratsberg, 22 13s. 9d.	50 Hon. and Trelawny, 15s.	50 Rhodes Reef, 3s.
50 Bwiche United.	200 Indian Consol., 5s.	10 Richmond, 26 6s. 5d.
20 Carnarvon Cop., 2s.	50 Indian Glenrock, 3s. 9	20 Roman Grav., 28 12s.
50 Carn Camborne.	100 Javali, 2s. 9d.	20 South Caradon, 2s. 6d.
100 Callao Bis, 7s.	50 Kapanga, 3s.	10 S. Condurow, 28 3/4.
100 Colombian Hyd., 6s.	25 Killifreth, 21 10s.	50 South Darren, 12s.
100 Consolidated, 2s. 3d.	50 Kit Hill, 2s. 6d.	100 S. E. Wynad, 3s.
50 Callao Bis, 7s.	100 La Plata, 15s.	50 So. Devon Unit., 11s. 6
50 Colorado, 22.	20 Last Chance, 2s. 6d.	100 Sortridge, 1s. 9d.
50 Canada Copper, 10s. 9	20 Leadhills, 22 14s. 6d.	25 South Penstr., 10s.
50 Chontales, 5s. 9d.	20 Marke Valley, 8s. 9d.	50 Tambracherry, 6s. 9d.
50 Cor. So. Austr. Cop., 10s.	100 Mon., 4s.	200 Tanker. Gt. Con., 2s
100 Devala Moyer, 6s.	75 Mounts Bay, 5s.	100 Treavean, 7s. 6d.
50 Devon Con., 22 15s.	50 Myasore Gold, 3s.	25 Trevaunance.
100 Devon Friend., 13s.	75 New Caradon, 4s. 3d.	20 Uni. Mexican, 25 1/2.
50 Devon United, 12s.	50 New Callao, 5s. 6d.	50 Victoria Gold, 12s. 6d
50 Dolcoath, 25 1/2.	75 New Emma, 21 10s.	10 Van, 24 1/2.
50 Don Pedro, 2s.	50 New Quebrada, 27 17 1/2	30 Wheel Bassett, 23 1/2.
75 Drakewells, 5s.	100 No. Blue Hills, 1s	25 West Callao, 10s. 6d.
100 East Blue Hills, 4s. 6	50 New Kitty, 21 17s.	50 West Phoenix.
50 Eberhardt, 5s.	50 Nuy. Monde, 4s.	50 West Caradon, 7s. 6d.
20 East Caradon, 7s. 6d.	20 No Penstruthal, 10s	50 West Oreb., 5s. 6d.
100 E. Craven Moor, 3s. 6	25 New W. Caradon, 4s	25 West Polbreen, 21 1/2.
10 East Lovell.	50 Old Shepherds, 11s. 3	50 West Poldice.
100 East Wh. Rose, 11s.	20 Orita, 12s.	50 Wheel Coates, 4s.
100 Flaxstaff, 2s. 3d.	20 Orita, 12s.	25 Wheel Oreb., 22 13 1/2
50 Frongoch, 12s.	25 Polrose, 6s. 3d., c.p.	25 Wheel Jane.
50 Frontino, 21 13s.	50 Penhall, 5s. 6d.	25 Wheel Jewell.
50 Goginan, 7s.	50 Potosi, 4s. 3d.	20 Wheel Kitty, 25s.
25 Gold Coast, 10s.	50 Port Phillip, 2s. 6d.	50 Wheel Silver & Lan-
40 Grogwinlon, 11s. 6d.	100 Parya Copper, 2s. 6d.	teglos.
100 Guinea Gold Est., 5s	30 Phoenix Unit., 22 1/2.	50 Wynad Persev., 3s.
10 Great Laxey, 21 3/4.	25 Puncillo, 26 8s. 9d	

\* SHARES SOLD FOR FORWARD DELIVERY (ONE, TWO, OR THREE MONTHS) ON DEPOSIT OF TWENTY PER CENT.

\* SPECIAL BUSINESS AT CLOSE PRICES in all Market TIN, COPPER and LEAD SHARES.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**RAILWAYS—SPECIAL BUSINESS.**—Fortnightly Accounts opened on receipt of the usual cover.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**FOREIGN BONDS—SPECIAL BUSINESS.**—Fortnightly Accounts opened on receipt of the usual cover.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**AMERICAN AND CANADIAN STOCKS AND SHARES—SPECIAL BUSINESS.**

Fortnightly Accounts opened on receipt of the usual cover.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**GOLD AND SILVER MINES.—SPECIAL BUSINESS in ALL**

marketable INDIAN GOLD SHARES, and in California, Callao, "Bis," old Coast, Guinea Gold Coast, New Callao, West Callao, Toluca, A. Toluca B. La Plata, Rio Tinto, Frontino and Bolivia, Potosi, Chile, Nouveau Monde, Ruby, Richmond, Victoria.

\* SHARES IN THE ABOVE SOLD FOR FORWARD DELIVERY ONE, TWO, OR THREE MONTHS ON DEPOSIT OF TWENTY PER CENT.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**IRON AND COAL SHARES—SPECIAL BUSINESS.**

Bilbao, Cardiff and Swansea, Consett, Chillington, Ebbw Vale, Nant-y-Glo, Newport Abercrom, and Pelsall.

SHARES SOLD FOR FORWARD DELIVERY, ONE, TWO, OR THREE MONTHS, ON DEPOSIT OF TWENTY PER CENT.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**ELECTRIC LIGHT SHARES—SPECIAL BUSINESS.**

Anglo-American, Maxim, Westons, Swan.

Shares sold for cash, account, or for forward delivery (one, two, or three months) on deposit of 20 per cent.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

**EAST WHEEL ROSE, OLD SHEPHERDS, MOUNTS BAY, TREAVEAN, HOME MINES TRUST.**

SPECIAL BUSINESS in the above for cash or account.

FOR SPECIAL SALE, FOR FORWARD DELIVERY, ONE, TWO, OR THREE MONTHS, subject to deposit of TWENTY PER CENT.—100 East Wheel Rose, 11s. 6d.; 100 Mounts Bay, 5s.; 100 Old Shepherds, 11s. 3d.; 100 Treavean, 7s. 6d.; 100 Home Mines Trust, 1s. 3d.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

ESTABLISHED 1842.

**M. W. H. BUMPUS, STOCK AND SHARE BROKER.**

AND MINING SHARE DEALER.

44, THREADNEEDLE STREET, LONDON, E.C.

ESTABLISHED 1867.

BUSINESS transacted in STOCK EXCHANGE SECURITIES

and MISCELLANEOUS SHARES of every description.

RAILWAYS, BANKS, FOREIGN and COLONIAL BONDS,

TRAMWAYS, TELEGRAPHS, and all the LEADING INVESTMENTS.

Accounts opened for the Fortnightly Settlement

A List of Investments free on application.

Mr. BUMPUS has SPECIAL BUSINESS in the undermentioned:—

100 Almada, 11s.	25 Frontino, 21 14s.	50 Pen-y-Oreadd.
70 Asia Minor, 13s. 6d.	100 Gold Coast, 9s. 6d.	150 Potosi, 4s.
50 Bratsberg, 22 15s. 6d.	20 Great Holway.	30 Prince of Wales.
40 Colorado, 22 1s. 6d.	150 Indian Consolidated, 4s. 6d.	10 Roman Gravels, 27
100 California Gold, 17s. 6	4s. 6d.	15 Richmond.
100 Colombian, 6s. 6d.	50 Kohinoor B. 10s.	40 Ruby, 21 7s. 6d.
100 Callao Bis, 7s.	50 Kapanga, 3s. 9d.	30 South Devon, 10s. 6d.
15 Chile Gold, 15s.	100 La Plata, 15s.	150 Sortridge, 2s. 6d.
25 Chiope, 23 10s.	30 Leadhills, 22 1/2.	50 Trevaunance, 22 1/2.
50 Carn Camborne.	25 Mona.	100 Tankerville, 3s.
100 Consolidated, 2s. 6d.	50 Marke Valley, 7s. 6d.	10 United Mex., 25 1/2.
75 Chontales, 5s. 6d.	150 Nouveau Monde, 5s. 6	50 West Goldolphin, 20s
5 Dolcoath.	40 New Kitty, 21s.	5 West Kitty, 21 1/4.
100 Devon Friendship.	50 New Trumpet, 20s. 21s	100 West Polbreen, 22s. 6
3s. 3d.	50 Oroganos.	15 Wheel Grenville, 26 1/2
15 Devon Consols, 22 1/2.	100 Orita, 12s. 6d.	40 Wheel Oreb., 22 1/2
50 East Caradon, 5s.	100 Parya Copper.	5 Wheel Agar, 21 1/4.
50 Emma, 41s. 6d.	25 Puncillo, 26 7s. 6d.	

Where prices are not inserted offers may be made.

SPECIAL BUSINESS in the SHARES of all the principal

HOME and FOREIGN MINES.

Mr. BUMPUS devotes special attention to these Securities, and is in a position

to afford reliable information and advice to intending investors and others.

WILLIAM HENRY BUMPUS, SWORN BROKER,

OFFICES: 44, THREADNEEDLE STREET, LONDON, E.C.

ESTABLISHED 1867.

**BRITISH AND FOREIGN MINING OFFICES.**

Messrs. PETER WATSON AND CO.,

18, AUSTIN FRIARS,

OLD BROAD STREET, LONDON, E.C.

BANKERS: THE ALLIANCE BANK (Limited).

**Messrs. PETER WATSON AND CO.'S**

BRITISH AND FOREIGN MONTHLY MINING NEWS

—STOCK AND SHARE INVESTMENT NOTES—MINES,

MINERALS, AND METAL MARKETS—SHARE LIST.

No. 858, Vol. XVII., for OCTOBER month, is ready, and

will be sent to customers on application.

Annual Subscription..... 5s. | Single Copy..... 6d.

**M. R. ALFRED E. COOKE,**

DEALER in BRITISH and FOREIGN STOCKS and SHARES

of EVERY DESCRIPTION.

(FROM 76, OLD BROAD STREET)

ESTABLISHED 1853.

9, OLD BROAD STREET, LONDON.

**MINE SHARES FOR SALE.**

Mr. ALFRED E. COOKE can SELL the following lots (or any smaller

number of shares) to immediate applicants at prices annexed, free of

commission:—

Where prices are not inserted, the market price of the day will be

taken, or offers may be made:—

20 Bratsberg Cop., 22 14s. 25 Mounts Bay, 5s. 3d. | 50 Sortridge Copper and |

30 Callao Bis Gold, 6s. 9 5 New Kitty Tin. | Tin, 2s. |

50 Colombian Hydraulic 60 New West Caradon | 15 South Darren Silver- |

Gold, 6s. 3d. Copper, 3s. 3d. | Lead, 10s. 6d. |

20 Carn Camborne Tin & 50 New Caradon Copper, | 30 South Caradon Cop- |

 Copper. | 3s. 6d. | per, 6d. prem. || 50 California Gold, 17s. | 100 Nouveau Monde Gold | 100 Tanker. Gt. Con., 2s. |
50 Chontales Gold, 5s. 3d	5s. 6d.	25 Treavean Copper &
50 Drakewells Tin and	40 North Blue Hills, 1s 6	25 Treavean Copper &
Copper, 4s. 6d.	60 North Grogwinlon	25 Treavean Copper &
60 Devon Friend., 3s. 3d	Lead, 4s.	25 Treavean Copper &
50 East Rose Lead, 9s. 6	30 Old Shepherds, 10s.	50 Victoria Gold, 12s.
75 E. Blue Hills Tin, 5s.	20 Oroganos.	30 West Caradon Cop., 7s
30 Eberhardt Silver.	20 Orita Gold, 11s.	20 West Polbreen Tin.
10 Frongoch Lead.	40 Prince of Wales, 11s 3	30 West Gonama Cop.,
25 Goginan Lead.	100 Potosi Gold, 4s.	4s.
20 Grogwinlon Ltd., 11s 3	50 Port Phillip Gold.	5 W. Kitty Tin, 21 1/4.
25 Home Mines Trust,	40 Parya Copper, 2s. 3d.	40 Wheel Jane Tin.
11s.	10 Richmond Sil., 26 1/2.	20 Wheel Oreb., 22 1/2.
100 Herodfoot.	25 Ruby, 21 1/4.	20 Wh. Coates Tin, 5s. 6
25 La Plata Lead, 15s.	10 Roman Gravels Lead,	50 West Oreb., 22 1/2.
10 Leadhills, 22 13s. 9d.	26 15s.	20 So. Penstruthal Cop.

TEN PER CENT. DEPOSIT.—Many of the above shares can be sold for

settlement by arrangement at the end of November or mid-December on pay-

ment of 10 per cent. deposit. Shares not found in the above list may be pur-

chased on application.

FORWARD DELIVERY.—Mr. ALFRED E. COOKE calls the attention of

investors to the fact that he now supplies shares for settlement at end of

OCTOBER or NOVEMBER on payment of TEN PER CENT. DEPOSIT.

SOUTH KITT (ST. AGNES).—Shares in this mine are likely to rise 200 to 300

per cent. The present price is only 10s. to 15s. No cheaper speculation has

been offered for a long time. Mr. ALFRED E. COOKE can supply FIVE HUN-

DRED SHARES or any part to early applicants at 12s. per share.

PRICES of every description of STOCKS and SHARES are

received continuously throughout the day by TELEGRAPH from the

STOCK EXCHANGE. TELEPHONE NUMBER, 1265.

ALFRED E. COOKE, 9, OLD BROAD STREET, LONDON.

(Opposite the Stock Exchange, with which the office is in DIRECT

TELEGRAPHIC COMMUNICATION.)

**M. JAMES STOCKER, STOCK BROKER,**

2, CROWN COURT, THREADNEEDLE STREET, LONDON, E.C.

Has special business in the following for cash or settlement by arrangement:—

Asia Minor, 12s. East Blue Hills, 4s. | Prince of Wales, 10s. 6d || Bratsberg, 22 15s. | East Rose, 10s. | Parya Copper, 2s. 6d. |
Callao Bis, 18s.	Home Mines, 11s. 6d.	Potosi, 3s. 9d.
Callao Bis, 7s.	Leadhills, 2s. 6d.	Richmond, 25 8s.
Carn Camborne, 17s. 6d	La Plata, 15s.	Sortridge, 1s. 9d.
Chile Gold, 15s. 6d.	Lake Superior, 21s.	South Caradon, par.
Chontales, 5s.	Leadhills, 22 13s.	South Devon, 10s.
Clitters, 33s. 9d.	Mounts Bay, 5s.	Treavean, 7s.
Colombian, 6s.	Montana, 40s.	Toluca, A. 25 1/2.
Colorado, 22.	Nouveau Monde, 4s. 9d.	Victoria Gold, 12s. 6d.
Colliacomb, 10s.	New Emma, 23s.	West Caradon, 7s.
Devon Friendship, 3s.	Old Shepherds, 11s. 6d.	West Oreb., 5s.
Devon Gt. Unit., 12s.	Orita, 11s.	West Kitty, 21 1/4.
Eberhardt, 5s.	Oroganos.	

BANKERS: LONDON AND WESTMINSTER.

**JOHN B. REYNOLDS, STOCK AND SHARE DEALER,**

37, WALBROOK, LONDON, E.C.

Established Twenty-five Years.

BANKERS: LONDON JOINT-STOCK.

Mr. REYNOLDS's remarks will be found on page 1235.

**NEW SERIES—DESIRABLE INVESTMENTS.**

**JOHN LENN AND CO. (LIMITED),**

5, GROCERS' HALL COURT, LONDON, E.C.

Are issuing a NEW SERIES of CIRCULARS, giving particulars of most

DESIRABLE INVESTMENTS.

Should be read by every Investor. Post free on application.

SPECIAL BUSINESS in EAST ROSE and OLD SHEPHERDS Mines shares.

**Messrs. ENDEAN AND CO., STOCK AND SHARE**

DEALERS, 85, GRACECHURCH STREET, LONDON, E.C.

ESTABLISHED 1861.

BANKERS: LONDON AND WESTMINSTER, Lothbury, E.C.

**JOHN RISLEY, STOCK AND SHARE BROKER,**

AND MINING SHARE DEALER,

38, CORNHILL, LONDON, E.C.

ESTABLISHED 1860.

BANKERS: LONDON AND WESTMINSTER, Lothbury, E.C.

**Messrs. PENNINGTON AND CO., SWORN BROKERS AND**

SHARE DEALERS, 13, MOORGATE STREET, LONDON, E.C.

Have FOR SALE the undermentioned or part, per share net:—

50 Bratsberg.	20 Leadhills.	80 South Darren, 9s.
50 Carn Camborne, 18s 3	80 Old Shepherds, 12s.	100 Tankerville.
100 East Wh. Rose, 10s 6	50 Ruby, 21 7s.	25 United Mexican.
50 Home Mines Trust, 11s. 6d.	10 Roman Gravels.	50 Wheel Oreb.
	20 Richmond.	30 Wheel Kitty.
	25 Sortridge.	

BUSINESS in ALL DESCRIPTIONS of STOCKS, MINING and other SHARES.

ESTABLISHED 1869—BANKERS: ALLIANCE (Limited).

**GABBOTT AND CO., STOCK AND SHARE DEALERS,**

110, LONDON WALL, E.C.

Have FOR SALE the following shares FREE of

COMMISSION:—

40 Callao Bis, 6s. 9d.	40 East Wheel Rose,	100 Potosi, 4s. 3d.
75 California, 17s. 6d.	11s. 6d.	50 New Ruby, 21 1/4.
50 Chile Gold, 15s.	30 Emma, 32s. 6d.	50 Oroganos, 25 1/2.
20 Colorado, 22 1/2.	30 Home Trust, 11s. 6d.	50 Rhodes Reef, 3s. 6d.
20 Devala, 2s.	100 Kapanga, 2s. 9d.	50 South-East Wynad,
100 Denver, 2s.	30 La Plata, 15s.	1s. 6d.
50 Eberhardt, 6s.	100 Nouveau Monde, 5s. 6	50 Treavean, 7s. 6d.

**F. FERDINAND R. KIRK, STOCK BROKER,**

5, BIRCHIN LANE, LONDON, E.C.

Fortnightly Accounts opened in all Stock Exchange Securities on receipt of

the usual cover

**SPECIAL BUSINESS in the following or any part:—**

5 Akankoo, 5s.	50 Eberhardt, 4s.	Oroganos.
50 Almada, 11s.	40 Frongoch, 13s.	90 Orita, 10s. 6d.
50 Bratsberg, 22 1/2.	50 Goginan, 7s. 6d.	60 Old Shepherds, 12s.
50 California Gold, 18s.	100 Home Mines Trust, 11s 3	50 Parya Copper, 3s. 9d.
100 Callao Bis, 7s.	40 Indian Consol., 5s.	60 Potosi, 5s.
30 Carn Camborne.	60 La Plata, 15s. 3d.	40 Prince of Wales, 10s.</



# The Llangelynnin Lead, Blende, Copper, and Graphite Mining Company

(LIMITED).

To be Incorporated with Limited Liability under the Companies Acts, 1862 to 1880.

CAPITAL £20,000, IN 20,000 SHARES OF £1 EACH.

## PROVISIONAL DIRECTORS.

OWEN EVANS, Bettws-y-Coed, North Wales.  
 THOMAS WILLIAMS, Llanrwst, North Wales.  
 RICHARD GIBSON THRELFALL, 4, East Cliff, Preston, Lancashire.  
 FREDERICK FIELDER, Whitefield House, Ashton-on-Mersey.  
 JOSEPH MITCHELL RILEY, Burnage, Manchester, Managing Director.  
 (With power to add to their number).

## BANKERS.

THE ADELPHI BANK (LIMITED), Brown Street, Manchester.  
 NORTH AND SOUTH WALES BANK (LIMITED), Llanrwst, North Wales.  
 SOLICITORS—Messrs. BRETT AND CRAVEN, Kennedy Street, Manchester.  
 AUDITORS—EDWIN COLLIER, BEARDSALL, and CO., 44, Brown Street, Manchester.  
 SECRETARY (pro tem.)—Mr. THOMAS WILLIAMS, Station Road, Llanrwst.  
 OFFICES—44, BROWN STREET, MANCHESTER.

## ABRIDGED PROSPECTUS.

The shares will be divided into 10,000 7½ per cent. preference (A) shares and 10,000 ordinary (B) shares.

Payments in respect of the "A" and "B" shares will be as follows:—5s. per share upon application, 5s. per share upon allotment, 5s. per share in three months after allotment, and the balance of 5s. per share in six months after allotment.

The "A" shares will receive a cumulative preferential dividend of 7½ per cent. per annum before any dividend will be paid to the holders of the "B" shares.

After payment of such cumulative preferential dividend the profits of the company will be applicable in payment of dividend on the "B" shares until the holders of such shares shall have received a dividend of 7½ per centum, and any further dividend will be paid *pro rata* upon the "A" and "B" shares.

3,500 "B" shares will be appropriated to the vendors as fully-paid up shares, and 500 "A" shares will be appropriated to the aforesaid Joseph Mitchell Riley as fully-paid up shares, such shares respectively being in part payment of the purchase money.

The balance of the purchase money—1000l.—is payable by two equal instalments of 500l. each, the first to be made on delivery of the leases, and the second at nine months from that date.

This company is proposed to be formed for the purpose of acquiring, developing, and working extensive mining sets and lodes in the parish of Llangelynnin, in the county of Carnarvon, North Wales, about midway between Conway and Llanrwst.

The only contract entered into on behalf of the company is one dated Oct. 19, 1883, made between Owen Evans, Thomas Williams, Griffith Evans, Joseph Mitchell Riley, Alexander Ferguson, Evan Evans, Benjamin Evans, and Thomas Evans, of the one part, and Richard Gibson Threlfall on behalf of the company of the other part. This contract, and copies of the take-notes and the proposed Memorandum and Articles of Association, can be seen at the offices of the company, 44, Brown-street, Manchester.

Copies of the reports of Messrs. Higson and Messrs. Johnson, Matthey, and Co. (assayers to the Bank of England), Dr. Burghardt, of Owen's College, Manchester, and Capt. Borlase, can also be seen at the offices of the company.

If no allotment be made the deposit will be returned in full, but when a partial allotment is made the surplus deposit will be applied towards the amount payable on allotment.

Prospectuses and forms of application for shares, can be obtained from the bankers, auditors, and secretary.—October, 1883.

## THE TIN DEPOSITS OF DAKOTA.

Although it may be some years before the United States becomes independent of other countries for her supply of tin, the discoveries of the ores of that metal which have been from time to time announced leave no doubt that ere long tin mines may be opened which will yield results of which capitalists, whether British or American, will have no cause to complain. The discovery of tinstone in the Black Hills of Dakota, which although first announced some five or six years since has hitherto received little attention, forms the subject of an interesting paper by Prof. W. P. Blake, F.G.S., published in the New York Engineering and Mining Journal. The sample forwarded to the professor in June was an irregular fragment weighing about ½ lb., evidently broken from a larger mass. It was dark coloured, very heavy, and had no appearance of crystallisation, and did not resemble any of the ores of tin which had come under his observation. It had, however, the hardness of cassiterite, and the characteristic powder or streak. Under the blow-pipe flame, upon charcoal, an abundance of globules of white malleable tin left no reason to question that the ore was mainly the oxide of tin, the mineral species known as cassiterite, which, when pure, contains over 75 per cent. of metallic tin. The fragments were more or less mixed with a felspathic gangue or veinstone, and some of them were incrustated with a bright green-coloured coating, which resembled the crusts of emerald nickel, but which before the blowpipe were found to consist mainly of copper carbonate. A quantitative assay of an average sample showed the presence of 40 per cent. of metallic tin. Other samples were telegraphed for, and, on their arrival, he found in addition to the massive cassiterite, some brown and black ores, having the appearance of columbite, of ilmenite, and of wolfram, and also a fragment invoiced as "long spar," which he at once recognised as a fragment of spodumene.

The discovery is in the central portion of the Black Hills in Pennington County, about 20 miles south-west of Rapid City, two miles from Harney City, and a few miles east of Harney Peak on the backbone or dividing range of the region. It is upon a claim known as the Etta, on a mountain which I have named Tin Mountain, and is at an elevation of about 4300 ft. above the sea. Harney Peak, the highest summit of the Black Hills, has an altitude of 7403 ft., according to the survey of Messrs. Newton and Jenney. This Tin Mountain is in the midst of a very rugged country, and is drained by the tributaries of Battle Creek, one of the largest streams of the hills. But although the peaks and ridges are rugged the intervening spaces are comparatively smooth and open, and permit the construction of roads at small expense. The wagon-road from Harney extends up the creek to the cabins on the claim at the foot of the peak of the mountain. There is a thick growth of pine timber over the whole region, and there is an abundance of pure water in springs and in running brooks. The rocks, the vegetation of the valleys, and the climate, all remind one of the mountainous parts of Northern New England.

The Black Hills, rising like an island in the broad expanse of the plains, are everywhere surrounded by the outcropping edges of the sedimentary formation from the base of the silurian upward to the tertiary so far as they exist at the west. These formations dip gently away on all sides from the central nucleus of more ancient rocks, which rise up in a multitude of irregular peaks and broken ridges with a general northerly and southerly trend. These rocks consist chiefly of fine-grained mica-schist and micaceous sandstones, traversed by veins of quartz, which are often auriferous, although the quartz has that peculiar glassy, barren look which is seen in the quartz veins of New England, and appears utterly unpromising for the precious metal. The slates in some portions are highly charged with small brown garnets, forming perhaps 20 per cent. of the mass, so that the rocks may be said to be garnet slates rather than mica slates. There is also an abundant development of staurolites and of staurolite slates.

Toward the central portion of the area of mica schists granitic intrusions make their appearance, and rise in rugged peaks in the midst of the slates. These granitic masses are remarkable for the extreme coarseness of their crystallisation, the constituent minerals being unusually large, and separately segregated. Large masses of pure quartz are found in one place, and masses of felspar in another, and the mica often accumulated together, instead of being regularly disseminated through the mass. It also occurs in large masses or crystals, affording sheets broad enough for cutting into commercial sizes. This occurrence of mica has led to considerable prospecting of the region for mica, and numerous claims have been located and worked. This quarrying for mica on the Etta claim brought

the heavy black tin ore to notice, for Tin Mountain where it occurs is one of these intruded masses of coarse granite. The word intruded is here used considerably, for the phenomena fully justify this conclusion as to the origin of the granite. The surrounding schists are not greatly metamorphosed from their original condition, and the transition from schist to coarse granite is sudden. These micaceous and garnetiferous schists of the Black Hills have been subjected to an enormous amount of crushing and compression, by which they have been folded and crumpled to a remarkable degree. The longer axes of these folds and wrinkles, instead of being approximately horizontal, as is usual, are, on the contrary, nearly vertical, or are highly inclined. The troughs of the strata thus stand nearly on end. It results from this folding and upheaval that the structure or grain of the rocks, so far as it is imparted by the folding, is nearly vertical, and at the same time is convoluted, and in consequence the formations, in wearing away by erosion and disintegration and decay, are left with a peculiarly uneven surface, presenting a succession of pointed hills and peaks rather than a series of nearly parallel ridges. This folded structure is the basis of the peculiar topography of the country. It is the cause of it. Even the quartz veins partake of the folding, as may be seen by their serpentine-like outcrops, and become columnar masses extending to great depths, while their internal extension appears to be comparatively limited. The gold-bearing rocks of the Deadwood region have a similar structure, and the paying portions are controlled by or follow the pitch of the folds, which pitch or inclination is not so steep as at the tin region. The granite intrusions coming to the surface form bosses or knobs, and Tin Mountain has this form, being nearly surrounded by the schistose rocks.

The cassiterite occurs near the top of the granite mountain, and apparently occupies a central or core-like position. The massive variety is in close association with felspar, quartz, and spodumene, while a granular form is disseminated in a massive micaceous albitic rock or greisen, which traverses the coarse granite in the form of irregular veins or bunches. There are thus two distinct forms of occurrence of the tin ore at Tin Mountain—Massive in bunches, with spodumene, felspar, and quartz, and granular, disseminated in a micaceous aggregate or greisen. In the massive form the ore is associated chiefly with the spodumene, which here attains an unusual size. It is not only in direct contact with the spodumene, but actually penetrates it, so that it appears to partly replace portions of the crystals. One of the specimens, weighing 1½ lb., is two-thirds tinstone and the remainder spodumene. Another specimen exhibits tinstone traversing the spodumene irregularly. The granular or disseminated form of the tin ore appears to be the most abundant and constant. The micaceous aggregate in which it occurs consists of a mixture of small scales of mica and of albite, also in small or granular masses, or in plates radially aggregated. The grains often occur irregularly disseminated, sometimes at the base of an aggregation of mica crystals, at the junction with the white-spar, and again it is found more sparingly in the midst of the mica crystals in thin, flattened, and transparent plates.

The extent and quantity of the greisen rock and the percentage of tinstone in it are the two most important questions in an economical and mining point of view. As regards the first the chief evidence at present is in the outcrops or exposures at the surface. These are extensive and decidedly encouraging. Without regarding the possible occurrence of massive ore in bunches, and confining the estimate to the greisen rock alone, it may be said to crop at intervals over a length of 100 ft. by from 70 to 100 ft. in breadth. These outcrops are irregular in form, and vary from 2 to 20 ft. or more in width. There are four chief outcrops, all showing tin ore. Very little work has yet been done to open up these outcrops of greisen. An open cut some 25 ft. long and about 15 ft. deep at the face is the largest excavation. It cuts through the pit which was sunk at first for mica, and followed the heavy black ore downward. In cutting this opening a considerable quantity of the greisen rock has been blasted out, showing specks and grains of tin ore throughout its substance. This greisen should be regarded as the chief and most reliable ore, though no doubt many masses and branches of the massive cassiterite will be developed, apart from the greisen when the ground is opened. The greisen is favourably placed for cheap mining. The surface of the hill slopes off from it each way, permitting it to be attacked by cuts or open quarry in several directions. It is easily drilled for blasting, and the most effective and economical method of getting it out, in quantity, will be to work it in open quarry, putting in heavy blasts, and then cracking up the large blocks by smaller holes, letting the fragments roll to the base of the hill, where,

by means of a suitable barrier of pine logs, forming a rude ore-bin, they may accumulate and be delivered as needed through chutes into cars below, thus avoiding the expense of lifting and handling. The greisen rock can be crushed with greater ease, either under stamps or by rolls. The tin ore separates easily from the mica and spar, and, after crushing, can be washed out by the ordinary methods of panning or concentration. This was demonstrated by many trials in panning. There is very little loss. The ore settles to the bottom, and deposits itself very much as gold does in panning out. The ordinary concentrating apparatus will handle the tinstone effectively. Water is abundant at all seasons, except probably for a time in the depth of winter, when the snows do not melt fast enough to fill the rivulets.

Ordinary hand samples of the greisen, taken from the large masses broken from the open cut, and rejecting the richer portions, will yield from 5 to 10 per cent. of clean tinstone, or black tin, of high grade. Some masses will yield from 10 to 50 per cent. by weight: but the general run of the ore is about 6 per cent., excluding the poorer portions. The general average of samples broken from all parts of the outcrops at the surface is about 3 per cent. It is certain that there will be no difficulty, when the ground is opened by blasting, in selecting the rock so that an average of at least 3 per cent. can be maintained, if this limit shall be found desirable. But it is probable that rock containing only 1 per cent. may be profitably worked if the mill is properly placed and equipped. The percentage of tinstone or black tin, in the greisen, it will be seen, compares favourably with the percentage of tinstone in the ores of other and well-known tin regions. In Cornwall, for example, where the statistics of tin mining and smelting are carefully kept under the direction of the Government, it is found that the average percentage of black tin in the whole mass of tin ore as mined and stamped, or prepared for dressing, is not over 45 lbs. to the ton, or 2 per cent. So, also, at Altenberg, Saxony, the smelting ore, or black tin, is 2 per cent. of the whole mass. But a much lower percentage than this has been worked. According to Phillips and Darlington it did not exceed 17½ lbs. of black tin to the ton at one of the largest mines in West Cornwall in 1855; this being equivalent to 0.86 per cent. The same authority, in describing the effectiveness of the ordinary stamp-mill in crushing tin ores, gives the following figures:—The average number of stamps in use at the Polberron Mines was 70, and the number of tons crushed in the course of five years was 106,249 tons. This quantity averaged 20 1-10 lbs., or 0.89 per cent. of merchantable black tin per ton. The profit per stamp amounted to 2l. 10s. for the whole period, or 42l. per stamp per annum.

## THE COAL RESOURCES OF QUEENSLAND—No. II.

In proceeding to notice the various coal deposits of Queensland, the Rev. J. E. Tenison-Woods commences with the Ipswich basin, remarking that the whole of the interior between the coast at Moreton Bay and the dividing range consists of oolitic coal measures lying unconformably upon highly inclined palaeozoic rocks, and covered by volcanic rocks in a few places, and by eolian sandstones in others. Moreton Bay itself, with much of the low-lying shores and mangrove islands, consist principally of alluvial deposits brought down in the course of ages by the many streams which here empty upon the coast. The deposits thus accumulated are enormous, and they have modified in a remarkable degree the geography of the coast; but that these strata of alluvium rest principally on the coal there can be no doubt. At Cape Moreton the headland shows a good section of the coal-bearing sandstones, having the usual dip of about 14°. The coal is met with in many places around Moreton Bay, and at a great number of localities inland. It is not improbable that the whole of this area will be found to contain coal, and being so close to the sea must have hereafter an immense influence on the commerce of the country. At Ipswich, on the Bremer river, a little west of its junction with the Brisbane river, about 24 miles from Brisbane, the outcrops of seams of coal are numerous and rich, and this locality has been in consequence the principal centre of the coal mining operations from an early period in the history of the colony. The seams lie on each side of the river valley, and at no great distance from the bed of the stream. They have been disturbed by a few faults, though the downward or upward shifting is never more than a few feet. There is also a volcanic dyke and an outflow of doleritic lava which seems to mark a clear line of division between the coal deposits on one side of the river and the other. Though the coal varies somewhat in particular seams and at certain collieries, it has a generally uniform character; it is a bright bituminous coal, with veins of brighter lustre running irregularly through it; it does not soil the fingers nearly so much as some of the Newcastle coals, and there is less of the mother-of-pearl or mineral charcoal between the bituminous seams; it ignites very easily and burns freely, giving an oily flame, and yielding much black smoke. The percentage of ash is about an average of 10, sometimes as low as 6; it is usually brittle, and breaks into cubical masses. As a general rule it cokes well, and is much esteemed both for gas and steam, being largely used for both purposes in the colony. The collieries which have the principal value and interest may be divided into two groups—those on the north and those on the south bank of the Bremer river.

The Watertown Colliery is being worked by two or three shafts all on the north side of the Bremer, and very close to its banks, and where it is navigable for small craft. There is a shaft upon the Garden seam which is about 7 ft. thick, and crops out upon the surface; it has a dip of usually 1 in 5, south 15 to 20° east. The coal has a short fracture, breaks into small cubes, soils the fingers, and is full of bright bituminous streaks. Since the opening of this mine about 150,000 tons of coal have been raised from different seams, all of which have been used for steam purposes. Of the coal from this mine Mr. A. C. Gregory, Government Geologist, late Surveyor-General, reports—"The coal is a fairly hard coal, cokes well, and is a good steam coal. The following is the analysis:—Fixed carbon, 62; volatile hydrocarbons, 25.2; ash, 12.8." Above the seam there is about 4½ ft. of splendid fire-clay, which will no doubt be utilised in the course of time.

The seams connected with the Watertown coal field are the Edina, Eclipse, Tivoli, and Old Tivoli, which will be referred to presently. The Bell seam, which is about a mile from the Garden seam, and belonging to the same proprietor (Mr. Moffatt), is about 3½ ft. thick. It seems a more compact coal than the last, and is a first-class coal for steam, gas, and coking; it is extremely good coal, with scarcely any partings in the seam. As far as the drive has gone, which is about 30 yards, the coal is rapidly improving. On this property there is a large coking kiln which has been in operation some eight years, and during which some 4000 or 5000 tons of coke have been turned out. The coke is made from the very fine slack and dust; it is of splendid quality, and is exported to Rockhampton, Maryborough, and even Melbourne to the iron foundries; it sells in Brisbane at about 12. 7s. 6d. per ton. The kilns are about half a mile away from the Bell seam on an old drive which is not now worked, as the coal was not found so good for coking as that obtained from the newer shaft.

The Rossend Mine (Lindsay's) adjoins this property; it is worked by one shaft to the extent of about 20 tons daily on what is supposed to be the Bell seam. The proprietor has got the railway contract this year for the supply of the southern and western line at 8s. per ton; he derives his coal, however, from a seam on the south side of the river. The Tivoli Mine (Gulland's), which, according to Mr. Gregory, is a mine on the outcrop of the upper seam, is a mass of coal some 5 or 6 ft. thick; it is bright and bituminous, though brittle, and like most of the coal hereabouts breaks when much handled into small cubical pieces; it makes an excellent coke. Mr. Gregory's analysis gives specific gravity 1.35; volatile hydrocarbons, 27; fixed carbon, 66; ash 7 per cent.

The Tivoli was until lately extensively worked, as its proprietor had the railway contract, and was able by a short tramway with a steep incline and shoot to load all the lighters on the river. On the Tivoli Mine there is one shaft and three seams, and at present it turns out about 50 tons daily. The Eclipse Mine works on one seam of the old or original Tivoli, and turns out about 20 tons a day. One very small mine may be added to the above enumeration of those on the north side of the river; this is the Eastwood Mine; but at present



**YORKSHIRE BRUSH ELECTRIC LIGHT AND POWER COMPANY.**—The Chairman (Mr. H. W. Lowe) said that it had been evident to the directors lately that they could not recommend the shareholders to continue the business with its present burdens. The amalgamation now proposed would remove those burdens, and in exchange for their unmarketable security in shares they would obtain an interest-bearing, saleable security. This alone was a desirable object to attain. He noticed that the Harnsley shares were worth 5*l.* 15*s.* each, and had been put at 5*l.* 10*s.* recently at 3*l.* 10*s.* Towards the end of the year a call was due on those shares of 1*l.* 5*s.*, so that adding the 3*l.* 10*s.*, the market value just mentioned, to this



found that the market value the shareholders would receive for them had in this company was 4s. 15s. This would be equal to 5s. a share (on which 2s. has been paid). He thought these terms must be regarded as favourable to them, in the circumstances, and no doubt they were also favourable, in so far as the directors were concerned. With the present expenses diminished, he saw no reason why, after a time, the business which they would hand over to the Hammond Company would not be remunerative. The resolutions approving the amalgamation were carried. The Chairman said that another meeting would have to be held to comply with the Companies Acts, and he hoped the exchange of their shares for those in the Hammond Company would then be made soon after Nov. 15.

### Meetings of Public Companies.

#### COOTACOVIL GOLD MINING COMPANY.

The ordinary general meeting of shareholders was held at the City Terminus Hotel, Cannon-street, on Thursday.

Mr. JAMES LABOUCHERE in the chair.

Mr. H. TOLPUTT (the managing director) read the notice convening the meeting. The report and accounts were taken as read.

The CHAIRMAN said that before going into the details of the report he thought it only fair to say a few words about the altered state of their affairs compared with their position about a year ago, when their prospects looked as favourable as they could have wished. Since that time the shareholders had received a circular, dated April 26 last, in which the directors stated the disappointment they all felt that the mine had turned out to be of so little value. Subsequent experience had still more confirmed them in the belief that to go on with mining operations would be to throw money away. They did not come to that conclusion without carefully weighing the pros and cons, and looking at the matter from every point of view, and much as he regretted on the part of the directors the state of the fact, he felt that to go on in the face of the present state of gold mining in India would be folly. This would not prevent them later on, if there should be any improvement in any way, either in connection with the reduction of gold or with any other method that might be invented, to begin working again. They had no intention of asking the shareholders to sell all the machinery for a song. On the contrary, they would leave it standing in a condition in which it could be used at any time. Turning to the report it would be seen that the reef had been thoroughly explored, and had been found all over to be so poor as not to give them any promise of future good. The highest average of crushing that they had had did not give them more than a calculated estimate of 2½ dwts. per ton, a result arrived at by adding the actual free gold obtained to the value of the tailings, to which Mr. Harvey referred in his last report. The reef did not prove to be so wide as had been expected, and another disappointment they had had was that their machinery had not worked at all so well as had been expected. The machinery took a long time to manufacture and send out, but it was put up and started to work in November last. It, however, broke down in December. Mr. Harvey then went out, and was occupied for four or five weeks in putting the machinery straight. After that time they crushed pretty regularly from March to July; but on July 14 the manager telegraphed, according to instructions, that he had stopped working, as the gold did not improve at all; but that, on the contrary, the reef had fallen off in value. They had found themselves in the position that the manufacturers of the machinery had not fulfilled their order. The directors had tried to come to a compromise with the makers of the machinery for a settlement on account of the damage, delay, and undue expense occasioned by the defective nature of the machinery. The stamp-heads were continually falling off, and could only be used by having them altogether renewed. They had not, however, been able to come to any settlement with the makers of the machinery, and they had, consequently, upon legal advice, begun an action against them. As the action was now pending it would, perhaps, be more prudent not to say any more about it. Turning to their financial position, it would be found that their funds were utterly exhausted, and that there was a liability to the amount of 5s. per share. What they had to do was to make the best of a bad job, and to see what they could do to recoup the shareholders eventually for a part of the loss they had already made. They had already started a certain reserve by the non-fulfilment of the directors' order. The soil of their estate was eminently fitted for the cultivation of both cinchona and coffee. The area was not large enough in itself, as the general expenses would very likely eat up the profits which such a small acreage would yield. It was thought that they might advantageously buy up some adjoining land, of which they had the refusal, at a moderate price per acre. In this way they would have an estate of about 1000 acres. A strip of land belonging to the Tambacherry Company would intervene, and they would have to make an arrangement with that company for about 127 acres at a moderate market value. At the same time if the company could be reorganised, and its capital reduced, it had been suggested that the Tambacherry Company should write off two-thirds of the fully-paid shares they held in this company. The Tambacherry Company held 32,000 fully-paid shares in this company; and the suggestion was that they should reduce their holding to 10,000 shares, which would be about an equitable arrangement. If this scheme were not received with favour, and the company went into liquidation, everybody acquainted with the liquidation of companies would know that there would probably be a call raised on the part of the fully-paid shareholders to pay the remaining 5s. per share, and go on as proposed. The directors were very anxious to avoid anything of the kind. What they wanted to arrive at was an all round compromise; and in asking the shareholders to adopt the report they also asked their sanction to the views thrown out in the report, more or less subject to modification. With regard to the suitability of the Wynaad for the growth of cinchona, of that there could be no doubt. Cinchona had in the last few years become a great article of import. It had been extensively planted in Ceylon, so much so that it was feared the market would be swamped; but it had been found that cinchona grown in Ceylon had a tendency to die after a few years, and there was no prospect of the production of cinchona in Ceylon increasing at such a rate as to interfere materially with the market value of bark. The present price was about as low as it will be, the quotation having been very much lowered, in consequence of the very heavy shipments of South American bark. This state of things could not go on, as the present prices did not enable South American bark to be shipped at a profit. The Wynaad, it should be remembered, was the nearest cinchona-growing district to this country, being, of course, much more accessible than Colombia or Peru. There was no doubt that the trees could be made to yield very well, while the upkeep would be very small, and the trees could always be left to improve if the prices did not justify shoving the bark off at any particular time. They could always arrange to subordinate their supplies to the condition of the market. In conclusion, he felt it his duty on the part of the directors to state that, however much they might be disappointed at the result of their venture, they had never for one moment varied in their good opinions of Mr. Harvey's honesty and integrity. He was bound to state that as it might naturally be said that the blame must be attached somewhere, and, therefore, they blamed the experts in mining who had advised them, he could only repeat that Mr. Harvey had always been most upright in his dealings with the company, and, indeed, when the directors wanted to go on to see what they could find lower down, he dissuaded them, and strongly recommended that mining operations should be suspended. (Hear, hear.)

Mr. LOVELOCK asked what was the result of the application to the shareholders, asking them whether or not they were willing to go on?—The CHAIRMAN said the directors had not received anything like the number of replies they had expected. There were 63,000 shares, and the holders of only about one-fourth of them had responded; but several of the shareholders had written to them that they would go on, and, however, depended on the result of that meeting. Probably between one-half and two-thirds of the shareholders would elect to remain in the company. It was the intention of the directors, if the suggestions in the report were carried out, to call up 2s. in the first year, with the balance of 3s. p. s. share probably spread over the next two years.

Mr. LOVELOCK said he wished to go on; but he thought the terms might be modified to those which he wished to go on. (Hear, hear.)

The CHAIRMAN said the directors merely wished to ascertain the wishes of the shareholders, and, where possible, to adopt them in the interests of the company. A SHAREHOLDER asked whether those shareholders who did not wish to go on would forfeit their shares?—The CHAIRMAN in reply said the shareholders who did not feel inclined to go on would be allowed to forfeit their shares, and the capital of the company would be thereby reduced.

A SHAREHOLDER asked what amount Mr. Harvey had received for his services in connection with this company?—The CHAIRMAN said that Mr. Harvey received his salary as consulting engineer until he went to India last, and then he was only paid his bare expenses. He had refused to accept anything further, and had since that time received nothing from the company.

A SHAREHOLDER asked whether the Tambacherry Company would not meet this company more fairly than had been suggested. (Hear, hear.) If they retained 10,000 shares they would still have received 300s. an acre for the property. (Hear, hear.)—The CHAIRMAN in reply said that the directors were animated by a spirit of compromise, and would do everything they could to put the shareholders on the best possible footing. They could not bind the shareholders of the Tambacherry Company, but they could make the suggestion to them.

A SHAREHOLDER referred to length to the terms of the prospectus and to the statement by Mr. Harvey that 10 dwts. of gold to the ton was certain. He expressed the disappointment felt by a great many of the shareholders, and said he thought they should have had a meeting before this to explain the views of the board. The expenditure appeared to be frightful, although the balance-sheet was so complicated as to be very difficult to understand.

The CHAIRMAN replied that the accounts were made up to June 30, and the working was stopped on July 14. From the moment that it was seen that they were doomed to disappointment the directors voluntarily reduced their fees by one-half. They now received 250s. per annum for the four directors. As to the office expenses, 100s. of that was due to the large number of telegrams, in consequence of the failure of the machinery. They had already had an enquiry for their railway trucks and other things from a Bombay firm; they had already sold some iron roofing and surplus stores. The machinery was being preserved in good order the present manager being a trained engineer, thoroughly competent to look after the machinery, and, in addition, its removal if required, strong it might be unnecessary to put away so large a proportion of profits as they had done this year.

Mr. TOLPUTT (the managing director) said that with regard to Mr. Harvey's fees the arrangement was that he should have a salary of 4500. a year as con-

sulting engineer, exclusive of his expenses, and a portion of that was paid by the Tambacherry Company. For his first visit to India Mr. Harvey received his expenses and, he thought, 300s.; but for his second visit he received nothing but his travelling expenses. He had, in fact, received only a fourth or a fifth of what other engineers had received from other companies, while he had shown his faith in the company by taking shares in it entirely un solicited by the directors. The directors' fees were fixed at 500s. a year; but they had been reduced to 250s. Their claim against the manufacturers of the machinery was now pending.

The CHAIRMAN, in reply to a question, said that to make the plantation of cinchona a success it would not be desirable to start it with a less working capital than 15,000s.; but that sum would be sufficient for the cultivation of both cinchona and coffee until both crops were in bearing.

Mr. HARVEY said he had come to the meeting prepared to meet any censure which the shareholders thought right to cast upon him in regard to his actions in connection with the company. He had acted as their adviser in the light of long and unvaried experience, and he was sorry to have to admit that he had made a mistake. No man could go into a mine and say that it was going to yield a profit, time and capital could prove that, but he had advised the company to the best of his judgment. He had received what he thought a meagre salary for looking after the affairs of the company, as he had done most diligently. He had advised that the property should be opened up, and as to the erection of the machinery and the development of the mine in a legitimate manner. No one could more regret the failure of that development than himself, for he spoke as a professional man and as a shareholder in the company. As to the machinery, he went for it to what he believed to be a first-class reputable firm, which had put up some other machinery under his supervision in a thoroughly efficient manner, and he had left them to carry out the order given for this company's machinery, believing that they would do so in a proper manner. He found on his visit to the Wynaad that the machinery was not in accordance with the contract. Besides this it was landed two or three months late. When it did arrive, however, no time was lost in putting it up, and results were obtained by it quicker than at any other mine in the Wynaad. He was only sorry that those results were not such as he had anticipated. He had carefully examined the reef, and all the evidence he could obtain seemed to show conclusively that a return of 10 dwts. to the ton would be obtained, but upon his third visit he found that the reef had entirely changed in character and was rapidly thinning out. The moment that he found this to be the state of affairs he advised the directors to stop operations. The directors had not had done all they could to make the thing a success, and he regretted deeply that their efforts had failed to bring about the desired result.

At the close of the discussion the CHAIRMAN moved the adoption of the report and accounts.

Mr. C. TOTTEHAM seconded the motion, which was carried unanimously.

The following resolution was passed:—"That the name of the company be changed to 'The Cootacovil Cinchona Company (Limited)'; and a further resolution, was passed, recommending the directors to consult with the Tambacherry Company as to the possibility of an amalgamation with that company on an equitable basis."

The retiring director, Mr. J. Labouchere, and the retiring auditors, Messrs. S. Lovelock and H. W. S. Whitin, were re-elected.

Votes of thanks to the Chairman and directors, and of confidence in Mr. Harvey having been passed, the meeting closed.

#### SCOTTISH AUSTRALIAN MINING COMPANY.

The half-yearly meeting of shareholders was held at the Cannon-street Hotel, yesterday.

Mr. ADOLPHUS WILLIAM YOUNG in the chair.

The CHAIRMAN, in proposing the adoption of the report and payment of a dividend at the rate of 15 per cent. per annum, observed the half-year's work at the Lambton Colliery has been of a satisfactory character. There has been a good demand for the coal, at times larger than the colliery has been able to supply; the price has remained at 11s. a ton, which is a fairly remunerative price to the colliery owner, and the relations amongst the various colliery proprietors and between them and their men have been of a peaceful character. The result of this state of matters is seen practically in the improved profits shown by the company's accounts, and it is to be hoped that the half-year now current may be equally satisfactory. From the advices that have been received, so far, there seems every probability that it will be so. It is expected that the total trade of all the Newcastle collieries will show for the whole of 1883 an increase over that of 1882 of some 300,000 tons. It has been arranged amongst the colliery proprietors that the price shall continue at 11s. during 1883. It was thought by some persons that, as the demand had been so good, an effort might be made to raise the price; but, on looking at all the circumstances of the case, it was felt that it would not be judicious to do so. In the first place, 11s. a ton leaves a very fair profit; in the second place, it has been accepted as a fair price by buyers of coal; in the third place, the miners are working contentedly under the wages which this price enables the masters to pay, and, lastly, a change in price gives rise to a good deal of trouble in connection with buyers in distant parts, and shipowners, who have to make their calculations of what their vessels can earn by taking a cargo of coal on ship's account, some time before. So, on the whole, it was considered best by Mr. Morehead and the other colliery representatives to "let well alone," and to go on through 1884 at the same price as during 1883.

The question of increasing the producing capability of the colliery has been under much consideration, and Mr. Crounce, the colliery viewer, is effecting some improvements to that end. If the trade should continue active (and a steady growth is to be looked for), the question of opening Stockton as an additional colliery will have to be practically dealt with. Preparation has been, to some extent, made, and recent letters from Mr. Morehead indicate that he had all matters connected with the subject of providing a shipping place for the coal well in view. The company, therefore, while doing nothing to push the coal trade abnormally, is keeping steadily in view the natural increase that is to be expected, and preparing to take its share of it whenever the right opportunity shall present itself. While carefully seeking to promote the welfare of the company's valuable and productive colliery property, the board have not been unmindful of the claims of the Cadia property upon their attention. Since we last met you much thought has been given to some extent, made, and recent letters from Mr. Morehead indicate that he had all matters connected with the subject of providing a shipping place for the coal well in view. The company, therefore, while doing nothing to push the coal trade abnormally, is keeping steadily in view the natural increase that is to be expected, and preparing to take its share of it whenever the right opportunity shall present itself. While carefully seeking to promote the welfare of the company's valuable and productive colliery property, the board have not been unmindful of the claims of the Cadia property upon their attention.

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The motion for the adoption of the report and payment of the dividend was passed unanimously, the auditors fees voted, and the meeting closed with a vote of thanks to the directors and officers, moved by Mr. FERGUSON, and seconded by Mr. FERGUSON.

#### WHEEL JANE MINING COMPANY.

A meeting of shareholders was held on the mine on Oct. 19 (Col. PERCEVAL in the chair) to transact the general business of the company, and to consider and deal with the defalcations of Mr. Granville Sharp, the late secretary, who has absconded.

The meeting was called by the committee by circular stating that owing to the continued absence of the secretary of the above mine the committee considered it necessary to have a statement of the mine accounts laid before them, and, as there appear to be some irregularities in the books, they have deemed it advisable to convene a general meeting of the shareholders at the earliest opportunity to take into consideration the present financial position of the company.

The minutes were confirmed without prejudice to the question of accounts. It was stated that Mr. Gore had relinquished 20 shares, and the other persons who had been in relinquishments were—Mr. Gould Sharp 503, Mr. H. N. Sharp 125, and Mr. Talbot (Mr. G. Sharp's late clerk) 203. All the calls on the shares were paid, but as they had been sent in since the books were closed, the relinquishments had not been accepted.

Mr. DAWSON remarked that they were all liable for their share of the cost of the present month.

Mr. STACPOLE (the company's London solicitor) explained that the books were placed in the hands of Mr. Drew, a London accountant, to make a report for the committee. This he did and the report which he would read showed that there was a deficiency of 1224s. 14s. 4d., the amount of which Mr. Sharp had misappropriated. The accountant in his report said: Cash book—I found the cash had not been written up since Aug. 16, 1882, and after making all the necessary entries up to the date of the last meeting (June 14, 1883) I find a deficit of 1224s. 14s. 4d. In the balance sheet presented to the meeting on that date only 24s. 14s. 4d. was set out as the cash then in hand. Ledger—On June 14 the merchants' balances were shown as 4222s. 9s. 9d., whereas the balance sheet presented to the meeting on that day only 3942s. 9s. 9d. was set out as the amount owing. The difference herein 1200s. and the cash as above 24s. 14s. 4d., accounts for the deficit of 1224s. 14s. 4d. Share account—there are 457 shares held by Mr. Sharp standing in his own and junior clerk's names, and there are calls owing on the same amounting to 212s. 10s. Continuing his remarks, Mr. Stacpole said that after that report the committee held a meeting, which Mr. W. M. Grylls attended, and it was then resolved that a meeting of the shareholders should be called and that in the meantime the books should be thoroughly made up and a balance-sheet drawn out. The auditor had drawn up a subsequent report from his more recent investigation of the books, which showed that Mr. Sharp's deficiency exceeded 1300s. That was, that since June 14 they had got a little worse so far as the defalcations were concerned.

It appeared that Mr. Granville Sharp, in the name of himself and nominees, held 1047 shares, upon which 661s. 3s. 6d. was due for calls. The total balance against the mine deficit included was 3765s. 18s. 7d.

Capt. RICH: What will be about the amount of your pay to-morrow?—Capt. RICH: About 78s. 0d. or 800s. with the petty merchants' bills. The coal account is charged up to the end of September.

Mr. M. H. WILLIAMS said it appeared that there was a balance against the mine of 776s., and there was the cost which must be paid (Saturday), of about 800s., making together 1576s. The adverse balance must be met, and he was of opinion that they ought to make sufficient call to pay it off. It was important that they should have a clear book.

Mr. DAWSON then moved the resolution:—"The financial statement of accounts for 15 weeks ended Aug. 25, showing a balance of liabilities (including a balance of 1457s. 0s. 11d. due to Messrs. Williams, Williams, and Grylls, bankers, Truro, Cornwall), and that a further sum is due from Mr. Granville Sharp of 2010s. 17s. 10d.—661s. 3s. 6d. for the arrears of calls, and 1349s. 14s. 4d. deficiency in his cash account (as referred to in the accountant's report), making a total of 3765s. 18s. 7d. against the mine to the above-named date, having been read, resolved that the same be received and passed, errors and omissions excepted, but subject to such further investigation as the auditors or their committee or agents may require respecting the last items."—Capt. RICH seconded, and it was carried unanimously.

Mr. M. H. WILLIAMS moved, Mr. WOOLCOCK seconded, and it was carried unanimously, "that in order to meet the outstanding liabilities amounting to 3765s. 18s. 7d., and the estimated cost for one month payable to-morrow (Saturday), say, 800s., that a call of 8s. 6d. per share be made, payable to Messrs. Williams, Williams, and Grylls, in two instalments of 5s. on Nov. 19, and 3s. 6d. on Jan. 9, 1884, and that the usual discount be allowed; also that the bankers' receipts be duly recognised."

Capt. RICHARD SOUTHBY (the manager) read a lengthy report on the operations in the mine. During the past four months their returns of tin had been the increase, while the current expenses had been considerably reduced. On the surface the jiggers were in full working order, and a saving of 50 per cent. had been saved in labour cost in preparing the whita for the calciner, and 5 per cent. saving of tin over the old mode of treatment. Forty frames for the treatment of slimes had also been erected, and another 40 were in course of making. A new boiler was being put into the pumping-engine, and a new condensing tank had also been put into the same engine. During the past four months 64 tons 3 cwt. of black tin had been raised and sold. (Applause.)

It was the opinion of the meeting that some Cornish shareholder should be on the committee of the mine, and the names of Messrs. M. H. Williams, and J. C. Dabuz, and the Rev. G. P. Cordeux, of Barnstaple, were added.

It was decided to again apply to the lords for a reduction of dues. The questions as to the appointment of secretary, and as to whether the company should have London offices or not were left to the committee.

The meeting concluded with the usual complimentary vote.

#### FOREIGN MINES.

**ALMADA AND TRITO CONSOLIDATED SILVER.**—R. Harris, Sept. 15: 100 Lode: We are driving north and south of No. 1 winze at the 12 fm. level, and have already opened 34 ft. on the lode; width of paystreak driving north, 3 ft.; estimated yield per lineal fathom, 12 tons; width of paystreak driving south, 4 ft.; estimated yield per lineal fathom, 15 tons. The stopes in back of No. 45 drift carries 3 ft. of ore for 105 ft. in length, and produces 12 tons of milling ore per lineal fathom. The north part of the stopes is less highly mineralised. The width of paystreak for 70 ft. in length is 1½ ft. We estimate its yield at 6 tons per lineal fathom. No. 45 drift north has become very dredgy, and producing nothing to value has been stopped. We are driving the cross-cut in the 12 with all possible speed. In the sinking of No. 2 winze below No. 45 drift the width of paystreak is 3 ft.; estimated yield per lineal fathom, 10 tons. Guisias 11 ft. have been driven during the fortnight. The south breast is in 3 ft. of ore, which we estimate at 12 tons per lineal fathom. The upraise is now 6 ft. above the back of the drift.

—Telegram, W. A. Clemes, Aug. 25: Reduction Works: Week ending this day 183 tons (English) were roasted. Raw pulp assays 25.1 and 28.3 ozs. troy per American assay; roasted pulp assays, 20.4 and 24.5 ozs. troy per ton.

—Telegram, Sept. 1: About 194 tons (English) were roasted in week. Raw pulp assays 28.0 and 27.4 ozs. troy per American assay; roasted pulp assays, 28.3 and 26.3 ozs. troy per ton.

—Telegram, Sept. 8: About 133½ tons (English) were roasted in week. Raw pulp assays, 29.2, 32.7 and 26.0 ozs. troy per American assay; roasted pulp assays, 28.6, 30.6, and 23.3 ozs. troy per ton.

—Telegram, Sept. 15: 176 tons (English) were roasted in week. Raw pulp assays 30.31 and 28.7 ozs. troy per English ton; roasted pulp assays, 26.1, 26.1, 26.1 ozs. troy per ton.

—Telegram, T. A. Almada, Sept. 18 and 21: Smelter: The campaign closed on the 10th inst. The estimated value of base bullion is \$10,738.—Bullion Account: Week ending Aug. 11, \$3700.49; Aug. 18, \$9922.55; Aug. 25, \$5377.79; Sept. 1, \$5787.81; Sept. 8, \$4980.75.

—Telegram, Oct. 11: The length of ore part or pay-chute in 70 drift (12 fm. level) is 75 ft.; 100 lode intersected by cross-cut in 12 fms.

—Telegram, Oct. 15: 100 lode looking well. Reserves, 6000 tons of ore. Please stop home pay of Tippet.

**BELT COPPER.**—A. Brand, Oct. 9: My last report was dated Sept. 18, since that date I have to report as follows: Champion, No. 1 Level East: No change to report in this level, vein continues. In good stamp copper. No. 2 shaft is now being driven to No. 2 level east. The vein has been good throughout both in barrel and stamp work, also small silver. We have now begun rising from the adit to the surface, this will be 336 ft.; when this is done our No. 2 shaft will be ready for hoisting from our second level below the adit. The vein in this rise has been and is still very good, in fact, the richest stamp work we have anywhere. Nothing has been done in the No. 2 level east owing to the amount of rock broken in No. 2 shaft preventing any possibility of getting in until to-day. The vein here, though much twisted, is rich in heavy barrel work. In No. 2 level we have been doing some stopping to make the level straight. We have passed some nice pieces of heavy barrel work. We are now getting our jams in No. 2 level in order to break through No. 1 shaft to third level. No. 1 level east is not looking so well as it has been; for the last 20 ft. the copper has been finer than before. We start sinking Knowlton shaft to the second level.—Wolsley: Still driving on the vein. It contains only fine copper.—Stamp-Mill: The boiler-house is shingled, boilers in place ready for building in, wash-floor installed, in floor partly laid, upper floor completed, and roof being shingled. Pump-house is completed, and pump in place; adit or ditch is nearly completed. Excavation for dam underneath and timber being cut. Trestle bridge over Bohemian creek on railroad in course of erection, and would be completed but for bad weather. Railroad grading is all completed, and in four days the rails will be laid as far as the bridge. The locomotive is now in Ontonagon, and teams start at it to-morrow. Washers



ing out exceedingly well; the ore is of high grade, and the yield will average 5 tons milling and 1/2 ton smelting ore per square fathom. The tribute pitches continue to yield well. The week's results are the best comment on the state of the mine, which is just now far more satisfactory than at any period since the company took possession. The points of chief interest, as they bear more particularly on the future, are the shaft, and the bottom drifts, where the lode is yielding good grade ore and good quantities of it.

Mr. Rickard telegraphed the directors on the 25th inst. as follows:—Mill run, 438 tons; yield, \$3300 (6600); smelting ore sales, \$800 (3600); total, 10200. COLORADO UNITED.—Mr. Macrae, Sept. 29: The 13 drift continues to show a fine streak of mineral of about 4 in., comparatively little progress being made, however, the rock being very hard. No. 2 stope is improving as it goes up and is now showing a good streak of ore, which produces about 3/4 ton to the fathom. No. 1 stope shows a slight improvement, but is producing only about 3/4 ton to the fathom. No. 3 winze is now being sunk from 12th to 13th level, and is situated 513 ft. east of the Silver Ore shaft or 142 ft. east of No. 2 winze. It is showing about 1 1/2 in. of mineral of good quality. The winze in the breast of Silver Ore drift is down 16 ft., and has from 2 to 3 in. of ore. There is about 2500 lbs. of this ore on hand. The Fenton lode in the West Terrace tunnel has a large crevice of some 3 ft. in width, with a little mineral on the hanging-wall. There have only been two men working for the last month, but the indications are still very promising. The mill has been running well during the week, but water is becoming scarce; 120 tons were put through. The following sacks of ore were sent to the buyers during the week:—22 sacks of cobalt ore weighing 12 tons 455 lbs.; 31 sacks of greenish weighing 1 ton 102 lbs.; 106 sacks of zinc headings weighing 5 tons 73 lbs.; total 359 sacks weighing 19 tons 215 lbs. There are about 8 tons of lead headings on hand.

Mr. Macrae, Oct. 1: The 13 in. level east is now in a fine body of ore from 4 to 2 in. in width, and of good quality. It is now 445 ft. from the shaft. There is no change in the No. 1 stope. No. 2 stope is showing in places some very fine mineral, and will produce about 3/4 ton to the fathom. The winze No. 3 from the 12th to 13th level is down 19 ft., and is showing from 1 1/2 to 2 in. of mineral. We have taken what ore is on the Fenton lode (of about 1 in. in width), and mixed it with our Terrible ore. There is some very high grade ore in this lode, showing grey copper and a little ruby silver. We are only working two men in the drift, which is now 116 ft. east of the drift west Terrible tunnel. The lode is now 4 ft. wide, with the mineral on the hanging-wall. The mill has been running fairly well during the week, but the water is becoming so scarce that we are compelled to shut down two or three times a day. The following sacks of ore have been sent to the buyers during the week:—206 sacks cobalt ore, weighing 11 tons 100 lbs.; 33 sacks screenings, weighing 1 ton 920 lbs.; 184 sacks lead headings, weighing 10 tons 1850 lbs.; 131 sacks zinc, weighing 6 tons 1333 lbs.; total, 554 sacks, weighing 30 tons 460 lbs.

COLUMBIAN HYDRAULIC.—A. E. Oakes, Sept. 17: Malpas Mine: There is but little to report on the present occasion, as there has not been any clean up this month. I am, nevertheless, sending you a small bar of gold made up as follows:—Gold recovered from old sluices in upper mine, \$372.275; and bought gold, \$246.05. Total value of bar, 1118.325. This, when put against the month's running, cost \$1759.85; leaves a loss, as might have been expected, of \$841.53, equal to about 1285.58. Mining Operations: The machine has been almost constantly at work during the month, but with very little water, owing to the exceptional dryness of the season. There cannot, therefore, be much gold in the sluices, and it would have been waste of time to stop the mine for it. I am therefore keeping the machine at work for another month, when I shall probably clean up, though, as you already know, I never expect to get much out of the very hard gravel we are now washing. The deep cut is being carried on with all possible speed, but I cannot hold out any hope of having it finished, as you suggest, within two or three months. However, at the end of that time I shall probably open up a new mine, or rather a continuation of Platina, where we may make pretty good money, as I am laying sluices as far as we have got with the deep cut. Ditches: Good progress is being made on both ditches. When they are completed we ought not even to suffer from want of water, as we have done this season.

CORPORATION OF SOUTH AUSTRALIAN COPPER.—Capt. Bryant, Sept. 8: Blinman Mine, Macey's Shaft: The shaftmen are engaged casing and dividing the shaft between the 60 and 70. We have three men only engaged at this work, as they are unable to work during winding. We hope to have the work completed by my next, so that we may commence hauling from the 70.—70 m. Level: We have two men engaged driving south of cross-cut close to footwall of lode, at 194 ft. fathom; lode worth for portion carried 2 tons 21 per cent. of ore. We shall push this on as rapidly as possible, in order to communicate with the winze sinking below the 60. We have also two men engaged in driving this level north of cross-cut; lode similar in value to the south end. It is worthy of remark that all the water pumped from the shaft is coming from the lode in this level, which does not appear to drain. I am expecting that by extending this level north and south more water will be met with. The indications for an increase of water are very favourable.—60 m. Level South: Men engaged here are making very fair progress, and every foot of winze is being exerted to communicate with the winze sunk below the 50. Winze sinking to the bottom of this level has fallen off in value recently, but I calculate will improve shortly; worth 2 tons 21 per cent. ore per fathom. This winze has reached water.—50 m. Level North: We have commenced sinking a diagonal winze in the leader that yielded coated yellow ore of 28 per cent.; present value, 2 tons 30 per cent. ore on leader per fathom.

This has the appearance of opening up to a deposit of ore. We have put in a shaft under the stope in the 60 south, and have commenced laying tramroad. The stope in the bottom of the 50 north, near the shaft, is yet in ground, and is worked by old workers for bunches of ore. The lode is very rich here, and yields good paying work. The stope in the end of winze in bottom of this level is worth 4 tons of 25 per cent. ore per fathom. Stope in back of this level is communicated with the winze in bottom of the 45; this is suspended for the present. Two miners have been placed to blast out the full width of lode in the 60 preparatory to stopping; lode worth about 31 tons of 21 per cent. ore per cubic fathom. All the machinery is in fair working order. We shall have to erect a new shaft, alter and raise our lines and tramroads, to put in a new tramroad to jigger skimping, and the skimping heap was extended too far for wheeling, also enlarge the ore floors, all of which will be proceeded with as we have available hands to put about it. Since writing the above report the stope in the bottom of the 60, south of winze, has improved, and is now a splendid deposit of ore.

DENVER GOLD.—Frank S. Craven, Oct. 2: The tribute pitch in the 800 west, north vein, continues very good. As shown by the mill report, the grade of the mill ore for the past week has fallen 1/2 oz. gold per ton from 3.5 to 3.25 oz. the week before; this is, however, due to enlargement of the crevice, which, as reported a week ago, is 6 in. wide, and carries 6 in. of ore. We are setting up our smelting ore from this place, and propose to send it all away in one large lot about next Monday. The tribute pitch in the 700 west, north vein, is looking about the same; 3 tons of smelting ore, mined by two men last month, have been sent away this morning. This pitch never carries any milling ore. The 900 west drift and stope have fallen off in quality of ore, as I supposed that they would. Yesterday I stopped the stope, and have put three shifts of men into the drift at 86 ft. level. We shall crowd work here as much as possible. The 1050 west drift, at the 10th level, of a crevice, which the mill run shows to be very poor indeed—about 1-1/2 oz. gold per ton—has been found to be richly payable for the month of October for 85 per foot. The 1150 west drift remains as it was a week ago. We did not start the proposed cross-cut for reasons which will be given later.

The 1275 west drift and 6 ft. stope carry about 1 ft. of crevice, which looks fairly well. We are now milling 20 tons of this as a trial of its quality. The stope in the 1350 west continues to put out a large amount of milling ore and considerable smelting ore. The grade of the mill ore is low—1/2 oz. of gold per ton—but the smelting ore raises the grade to 12 oz. gold per ton. The pay crevice will average 4 ft. in width. The operations in the 1150 east drift and rise from 1200 east are encouraging. The drift at 90 ft., east of the shaft, carries 2 1/2 ft. of a fine looking crevice. We have been expecting almost hourly to connect with the raise, and no doubt we shall do so before night. We shall then be able to get out the ore, which is at present shut up in the 1150 east drift, and find out what it is worth. The run reported from the 1200 east, old stope, is on ore from the raise just below the drift, and the yield is not bad, 3/2 oz. gold per ton. There is also considerable tribute ore in this connection when made should make room for six or eight miners. The tribute pitch 1350 west, north of second Keyrock, is still working and putting out a little ore.

After considering our situation here from all sides, Mr. Alfred Rickard has decided to greatly curtail our deadwork. This is rendered necessary by our financial condition. We therefore yesterday stopped the 1050 and 1150 west drifts, and did not reset the 1350 drifts, east and west. The 900 west drift is the only one which is to be pushed ahead at present through non-paying ground. The 1275 west drift will be kept on with as long as it is in pay; and wherever we have pay we shall mine it as rapidly as our expenses for the immediate future, and we place our main reliance on the ground opened by the 900 west drift. If this opens good pay, as there is every reason to believe that it will, we shall be all right, if it does not, then our present resources will shortly be exhausted probably, and more money must be sent from London if the mine is to be continued. There is always the hope, however, that our working in pay may uncover richer ore, and extend our resources. I am particularly hopeful that we shall be greatly surprised in the 1150 and 1200 east. The tribute pitch on north vein 800 west is also looking very promising. We must set a cross-cut to tributaries if possible to cut this further east and lower down.

EBERHARDT.—Frank Drake, Sept. 29: Our progress for the past week has been unusually small, on account of the hot days; but the men are now at work again. I am calculating to have started work again in No. 2 raise; but so many of my men being off duty, I put those remaining at work at a point in raise opposite No. 2 level south, and started a level north. In No. 2 level north 5 ft. was made. No. 2 level south was extended only 5 ft., making total length 14 ft.; no material change in the character of rock; in both workings the quartz is strong, and of good character for pay ore.

Oct. 6: The south drift from No. 3 raise has advanced 6 ft., making total length 216 ft. The south drift in No. 2 raise has advanced 7 ft., making total length 21 ft. The No. 2 level north has advanced 9 ft., making total length 14 ft. All our workings are looking well. The quartz in north and south drift from raise No. 2 is looking strong and carries mineral.

FRONTINO AND BOLIVIA.—Oct. 26: The following is the statement of the profit and loss account for the month ending August:—3440 tons (of 20 cwt.) from general mines produced (average 15 dwts. per ton), 2695 ozs.; gold bought, 159 ozs.; total, 2855 ozs. Estimated value of the gold, including exchange, 73154; cost at the mines at Medellin and in London, 55104. 15s.; monthly allowance for freight, commission on gold sales, and sundry fluctuating outlay, not immediately ascertainable (estimated at 3000; paid for gold bought of tributers, 3061.5s. = 3174; profit, 5174. In addition to the cost of 55104. 15s., the sum of 974.3s. has been spent on and debited to capital account. The directors are happy to inform the shareholders that Mr. Franklin White has recovered from his recent indisposition. The reports from the mines must be considered satisfactory, the yield having increased to 2700 ozs., as stated in the telegram last month. Shareholders will observe that Mr. Franklin White looks forward to shortly having four levels driving in good mineral at the 150 ft. level in Silencio Mine, from which he expects good results. Mr. F. White also states that the mines produced steadily and well with the exception of the Silencio and Talca Mines, in both of which we may anticipate shortly better returns and less cost as their new machinery is completed.

GOLD COAST.—Aug. 23: The mill is crushing away as hard as it can. I am rather anxious about water, yet think what we have got will last until we have more rain, which is expected daily. There is a decided improvement in the

yield on the plates during the last 40 hours. I have about 1 lb. of retorted gold in the safe besides.

Sept. 5: Notwithstanding the greater number of my men being employed in the transport of the heavy portions of the machinery from Bonshad during the past week, I find that I shall be able to send you a very fair shipment of gold next Tuesday. The progress of the erection of the additional machinery is 80 per cent. on a sure, but slowly.

HONNALL GOLD (INDIA).—Sept. 15: Main Shaft: The cross-cut at the 100 has been driven 6 ft., total distance 21 ft. from shaft, at which point we have to-day cut the reef, which is of a splendid character. The quartz is highly mineralised, containing a large percentage of arsenical pyrite, and is rich in gold. I estimate to yield at least 5 ozs. of gold per ton; it may yield much more than this, but I would rather be under than over in my estimate. I do not wish to create any undue excitement over this discovery, but at the same time I must affirm that the permanence and quality of this reef is now beyond doubt. We cannot say, at present, what width the reef is; so far we have broken into it for a distance of only 2 ft., and are not through it. I am confident when this lode is properly opened up it will go far to restore confidence in gold mining in India, when economically and energetically conducted.—Turnbull Reef, No. 1 Shaft: The south stope, No. 5, has been extended to 26 ft. from the shaft, and up to the break; reef 4 ft. wide, and of good quality. North stope, No. 4, extended to 20 ft., and through the cap of the reef; this stope has been following the cap of the reef nearly the whole of the way, and the reef is consequently much broken up and rather poor. We have opened out in the cutting south of the shaft, South broken the reef from 20 tons of quartz of fair quality. Quartz broken from this portion of the reef, 30 tons; total 215 tons.—No. 1 South Shaft: North Drive extended 6 ft., total 25 ft.; reef 2 ft. wide. South Drive extended 6 ft., total 16 ft.; reef 2 1/2 ft. in both drives; the stone gives a fair show of gold on being tested.—No. 2 South Shaft: No work done, have been engaged fixing windlass, logging up shaft, and making quartz paddock.—Mill: The crushing works are now completed in a most substantial manner, and we will start regular crushing on Monday next, Sept. 17. Coolies' wages for the fortnight 407 s. 13 s. 6 d. Quartz raised to date:—Turnbull Reef 53 1/2 tons; Leighton Reef 137 1/2 tons; South Reef 107 tons; total 322 tons.

HOOPER HILL GOLD.—Oct. 4: There is no change to note in the drifts north and south from the Gallimore at the 170. The men from the north drift have been put to sink the Gallimore shaft deeper, and have taken it on contract at \$26 per foot. Stopping from the 130 was commenced at the end of September. A considerable amount of ore continues to be broken in the tunnel stope, which latterly has not been quite so good as usual. In the Hawkins open cut sinking has been suspended, while some ore which is going off on the south-east side is being followed. Mill run for September:—607 tons ore crushed, yielding 132 3/4 ozs. of gold, or at the rate of about 4 3/4 dwts. per ton. The average yield per ton mined has been reduced by the tunnel ore not being quite so good as usual, and by the milling of considerable quantities of very low grade ore from an old dump, which was removed in order to bring up a branch tramway to the Hawkins open-cut, and also low grade ore broken in the open-cut itself.—N.B. The gold above referred to, the secretary advises us, has been received at the company's offices.

ISABELLE GOLD AND SILVER.—Manager, Sept. 29: The ore in the bottom of the east cross-cut still holds good, but the water pours in on us in such quantities that it is going to be very expensive work to get the ore out. Of course, when we get the shaft down there will be no trouble. The work we have done here proves beyond a doubt that our ore goes down, and that it is getting richer in gold. Our last battery samples showed more than an ounce to the ton of ore.

KAPANGA.—James Thomas, Sept. 8: Crushing: There has been 50 tons of lodestuff crushed during the past month, which produced 13 ozs. with 30 lbs. weight of very rich specimens, that yielded 88 ozs. 15 dwts., making a produce of over 2 ozs. per pound of stone; total melted gold, 81 ozs. 15 dwts., giving a general yield of over 1 oz. 12 dwts. per ton.—50: Scott's Lode, No. 1 Winze: This is the best gold-bearing ground below this level, under Nos. 1 and 2 rises, south of cross-cut, 1 put the 200 ft. stope during the month to sink to sink on the course of the lode; they have sunk 50 ft. by 10 ft. long on a strong body of quartz, strongly intermixed with minerals, the lode occasionally yielding exceedingly rich specimens of 2 ozs. per pound of stone. The winze at present has a most promising appearance for producing further patches of rich stone.—70: Kapanga Lode, No. 8 Level South: This new level has been driven south of the intermediate cross-cut, on the course of the lode, 50 ft.; the ground driven through has been very slow for making progress, necessitating extra heavy timber to secure the level, in consequence of the lode consisting of soft, gritty floozan, from 4 to 8 ft. wide; this floozan course is gradually changing harder and getting smaller, carrying small branches of nice looking quartz, which are good indications, and of the same character as seen in No. 7 level above. I am expecting the lode to change into compact quartz daily, when there should be gold, as such changes under similar conditions seldom occur without making it. At the point of cross-cut intersecting the lode the men have stope the back north and south of cross-cut on the hanging-wall 15 ft. by 12 ft. high, on two branches or droppers, which are from 5 to 10 inches wide; at times small particles are detected in the quartz, and the stuff is carefully saved and sent to the battery. These specimens are expected to be met with in these small mining branches.—Machinery: The pumping engine and pitwork are in the best of order. The consumption of coals is still excessive on account of the continued floods, which I hope are now over with the arrival of spring season. These three above-mentioned points of the mine now being attacked show prospects of the most promising character that any moment may lay open something very cheering for all concerned.

KOHINOOR AND DONALDSON CONSOLIDATED.—Mr. Alfred Rickard, in his report for the week ending Sept. 22, says respecting the Donaldson Mine:—The Nos. 1 and 2 levels are now yielding 30 per cent. of net proceeds of output; the yield is 3 1/2 oz. of smelting and 1 1/2 oz. of milling ore per square fathom. The lode in the stope is yielding ore of good grade, and holds out satisfactorily. At the Champion Mine the 600 ft. level west is in 60 ft., and for the present is suspended. The 52 level stope is yielding 1 ton of smelting and 2 tons of milling ore per square fathom; the back stope have been reset on tribute. The 400 level east is in 65 ft.; the ore vein is holding out steadily, and the mineral is of good grade. The stope of this level are on tribute at a remittance of 30 per cent. on net proceeds of output; the yield is 1 ton of smelting and 3 tons of milling ore per square fathom. The 200 west and 150 east and west stope are also on tribute. Workmen are engaged framing stations for Champion tram.

In his report for week ending Sept. 29 Mr. Rickard says:—At the Donaldson Nos. 1 and 2 levels remain on tribute at a remittance of 30 per cent. net proceeds of output; the yield for each level is 3 1/2 oz. of smelting and 1 1/2 oz. of milling ore per fathom. The ore vein in the No. 1 stope has improved in size and value, and the No. 2 stope are maintaining their yield satisfactorily. At the Champion and the 600 ft. level west, as yielding 1 ton of smelting and 2 tons of milling ore per fathom; these stope are making a fairly good output of ore. The concentrating ore is being stocked. The 400 ft. level east is in 65 ft.; the stope of the level are yielding 1 ton of smelting and 3 tons of milling ore per square fathom.

LA PLATA MINING AND SMELTING.—Mines: The output for the week ending Sept. 29 was 101 tons, making for the month 953 tons. We are pushing on as fast as possible, but I do not think we shall hold before Tuesday (Oct. 9), which date we shall begin to work at the rate of nearly 2-60 tons per month.—Ore supply: We are keeping up our rate of smelting charges, so that the ore we are getting will give us a fair margin. By the end of October we shall probably have sufficient ore to start our furnaces with.—New Works and Repairs: The new flues are finished, also the condensers. The chimney will be finished this week, and next week we shall go on with the two new furnaces. In a few days I hope to see everything finished, and no further expenditure on this score will be needed. We have everything now in good shape. The engines and boilers are hauled, all water supply arrangements for winter put in good trim, and the machinery is ready to compete with any of the La Plata party.

LAKE SUPERIOR NATIVE COPPER.—Capt. Williams, Oct. 1: No. 3 level, south of No. 1 shaft, on course of lode is 9 ft. 2 in. Rise in back of No. 3 level, north of No. 1 shaft, is 13 ft. 6 in. No. 2 level, south of No. 1 shaft, on course of lode, is 8 ft. 5 in. No. 2 level, north of No. 1 shaft, on course of lode, 9 ft. No. 2 level, south of No. 3 shaft, on course of lode, is 11 ft. 2 in. No. 2 level, north of No. 3 shaft, on course of lode, is 7 ft. 3 in. No. 1 level, south of No. 3 shaft, on course of lode, is 13 ft. 6 in., which makes it 72 ft. There is no change of any importance since my last report in this part of the mine. I have sent a party of miners about 30 ft. up this lode from our present No. 3 shaft. The lode looks very well, producing some very fine native copper along the outcropping. At the harbour the amygdaloid belt continues to open out well, averaging 10 ft. wide, producing strong shot copper. We have now finished stripping, and are making preparations to sink a trial shaft. I have removed the Diamond drill on to another amygdaloid belt, much larger than the one above; the result of our trials will be sent on in due course. The articles from the south shore have not yet come to hand. We have in the meantime put in temporary fittings, so as to make a start, and hope to send you good results of stamping and dressing by next mail. Had we got the requirements we should have been working on the 15th ult. We have had continued bad weather for the past fortnight, all the lake boats being considerably behind time.

MICHIPICOTEN.—J. Opie, Oct. 2: Batter's shaft is sunk to 360 ft., and we have put in solar, and extended the drift 5 ft. 4 in.; the end is being driven in dark trap, at \$3 per foot, the men paying for explosives, candles, &c. As soon as convenient the sinking of this shaft will be resumed, and the drift urged on at the same time to communicate with Main's shaft. At Main's shaft six men have sunk 12 ft.; present depth from No. 2 level 76 ft. The shaft has been sunk on a straight line, and there is no doubt that the best part of the lode stands in the south; this will be ascertained when we get a few feet deeper, where we intend to cut flat and extend on the lode both east and west. There is copper found at times, but not in paying quantities. We have on the dump at this shaft about 600 tons to put through the mills; this rock is returned from both the east drift and shaft. Since last report we have fixed a pole in the 200 ft. level, and put our former standing lift to the bottom, and it works well; at present there is a pair (eight men) in this shaft. East on No. 2 level two men have advanced 4 ft.; this drift was resumed as soon as men came on. We are yet driving on the south part, and the lode improves both in size and quantity as we advance.—Surface: I am pleased to say that in the past week I got off the boat 30 men, including engine and firemen, blacksmiths, teamsters, bush hands, and road men, and I have let a contract for the completion of the road to the harbour for \$1400, the men to pay their own board, the company providing tools and a yoke of oxen. We have 15 men on the road, and the work will be pressed to completion before the setting in of winter, so that we shall be able to dispense with water carriage and all the delays and risks. We have a full winter supply of explosives, candles, &c.; they are at the mine side, and safely secured.

NERBUDDA COAL AND IRON.—Coal Raisings for September: Output, 1043 tons 5 cwt. 23 lbs.; sales, 834 tons 8 cwt. 0 qrs. 23 lbs.; consumption, 209 tons 0 cwt. 2 qrs.

NEW EMMA SILVER.—George Cullins, Oct. 3: Since my letter of Sept. 28 the west level has advanced 12 ft.; distance from cross cut 130 ft. Rock continues hard, no perceptible change to report. East level advanced 12 ft.; distance from incline 116 ft. Rock in this level continues to improve, but matter showing more and more with streaks of iron, and rock is getting softer, breaking to good advantage.

G. Cullins, Oct. 10: Since my letter of 3rd inst. have advanced east level 12 ft.; distance from incline 128 ft. The improvement mentioned in my letter of Oct. 3 continues, more ore coming in, but is so dispersed through the rock and vein matter, can save but very little. Have started a cross-cut to footwall from near face of east level, and shall run to a point under Alwood works. We are now in 10 ft. with this cross-cut. Machinery and pumps working very nicely.

PITANGUI GOLD.—T. S. Treloar, Sept. 3: The produce for August was 721 oltz., and has been derived from Holland's shaft. Sinking on the new vein below the 15 fm. level being under suspension, and the backs above the 25 becoming exhausted, gold raising operations for the present will be confined to the Jose Candido section. At the latter point the level from the winze has intersected the run of auriferous ground in No. 1 stope, and fairly productive mineral is being sent to the wash-house therefrom.

Sept. 18: The produce for August from 36 tons of mineral was 721 oltz. of gold (or 7 5/8 oltz. per ton), worth, at 8s. 6d. per oltz., 3087. 8s. 6d.; the estimated cost for the month, at exchange 21 1/2 d., was 2532. 1s. 6d.; leaving an estimated profit of 555. 7s. Operations at present are confined to No. 1 stope in the Jose Candido section. The mineral there in comparison with what has latterly been received at the wash-house's of a low grade, and, in consequence, a larger output is required to enable us to obtain a fair produce; the whole of our small force is thus occupied in that section. To prevent our being brought to a stand again early in the year the 30 should be advancing, but I hesitate to resume it, since there appears little probability now of our being able to prosecute it and stoping also without showing losses. I, therefore, await the views of the directors.

QUEBRADA RAILWAY, LAND, AND COPPER.—Aug.: Mineral sent to the coast:—Regulus, 385 tons, 21 1/2 per cent. dry; calcined ore, 9 tons, 10 50 per cent. dry; ore, 2745 tons, 9 25 per cent. dry; total, 3139 tons. Ore sent to smelting works, 2008 tons, 4 20 per cent. dry. Home arrivals during the month, 4611 tons; sale of ore and regulus, 3466 tons, at 12s. per unit; stock afloat and on wharf at Aug. 31, 7884 tons; stock at the mines at Aug. 31, 1856 tons; local traffic receipts for the month (railway), 1762.

RICHMOND CONSOLIDATED.—Telegram, Oct. 23: Week's run (one furnace), \$17,000, from 314 tons of ore; refinery, \$20,000.

—S. Longley, Oct. 2: The 100 south drift from station has been run 18 ft. Total 728 ft. In limestone. The 100 south-west drift from above has been run 9 ft. Total 79 ft. In limestone. The 300 south-west drift has been run 5 ft. by hand-drill. Total 312 ft. In limestone. The 105 south-east drift on fissure (from north-east drift) has been run 23 ft. Total 125 ft. In limestone. The 105 south intermediate drift from north-east drift from rise has been run 9 ft. Total 61 ft. In limestone. The 1050 west drift from rise from intermediate drift has been run 19 ft. Total 39 ft. In red limestone. The 1050 winze from west drift on fissure has been sunk 29 ft. Total 23 ft. Stopped on account of water.

ROSS UNITED.—Henry M. Paul, Sept. 6: Since my last report on the progress of the works at the mine the 100 ft. level has been proved to extend a distance of 300 ft. by 160 ft. with a depth of 6 ft. of wash. This the directors considered sufficient to warrant them in opening out this layer, and accordingly a shaft has been sunk for the purpose of winding the wash-drift, and active mining on this level will be carried on at once, which, from results obtained justifies us in expecting a very satisfactory return. The second cylinder of the pumping-engine is now in position, and in a few days sinking the main shaft will be continued. During the time occupied in this work—the fixing of the additional engine, the 140 ft. level has been prospected with very good results. The tail-race extension drive is being rapidly pushed forward, and negotiations are pending with the manufacturers for the plant (elevators) for working what is known as the Flat claim.

ROSS UNITED.—DUNDERBERG CONSOLIDATED.—Sept. 30: Dunderberg: The drift from the upraise above the 300 ft. level has been run 17 ft. this week; total, 169 ft. from the upraise. There is no change to report in any of the stope now being worked on tribute. No tribute ore shipped this week.—Home Ticket: The incline has been sunk 23 ft. during the week; total, 65 ft. below the 150. A drift was commenced to-day from the bottom of the incline in the direction of the orebody. The drift from the incline at a point 36 ft. below the 150 is now in 29 ft. in ore from 3 to 5 ft. wide. The quality of the ore in this drift is not so good as the first-class ore shipped lately. Have shipped 8 1/2 tons of this ore, and have 20 tons at work.—Lord Byron: The tunnel has been advanced 23 ft. during the week; total, 350 ft. A survey will be made in a few days to ascertain the nearest point to connect the tunnel with the cave in bottom of the old workings.

Telegram, Oct. 23: 102 tons ore shipped and 60 tons smelted, realising net \$927; 16 tons tribute ore shipped and 16 tons smelted, producing to company \$157.

SANTA BARBARA.—T. S. Treloar, Parl, Sept. 17: The mineral treated at the spalling-floors during August was 1423 tons, of which 553 tons were rejected as waste, and 870 tons were sent to the wash-house and returned at the No. 4 stamping mill. The total produce obtained was 1560 oltz. of gold (or 1 1/8 oltz. per ton), worth, at 8s. 6d. per oltz., 6712. 1 s., and the estimated working cost for the month, at exchange 21 1/2 d., being 8852. 2s. 7d., leaves an estimated loss of 2140. 12s. 7d., in addition to 2422. 12s. 3d. estimated as expended on capital account during August in respect of the construction of the new water-course and pumping and hauling machinery. As regards such improvement in our gold returns as will enable profits to be shown I can only repeat what I stated in my last—all now depends on the arrival of the pitwork. Unfortunately, the steamship having taken one of the cases on to Santos the dispatch of this pitwork from Rio was delayed a fortnight, and now we have another delay facing us. The cart drivers engaged are objecting to work their cattle until next month, on the plea that there is no pasture; a plea which is not very reasonable, since the pastures this dry season, owing to recent rains, are not so bad as usual. If carts cannot be obtained by our agent at the railway terminus to bring up the whole of the pumps at once, no doubt a sufficient number can be found either there or in this neighbourhood to bring the parts we are in immediate need of. To expedite matters I have sent Mr. Vivian down with the gold trap to confer with our agent, and if necessary to make a separation of the pitwork. Owing to the falling off in the quality of the lode northward, and the consequent disappointing produce, the difference between the value of the latter and the total cost has, I am sorry to say, exceeded the limit of 4000. By 561. 4s. 10d., but I trust this will not occur again. Stopping northward is for the present under suspension, the force being concentrated on the lode in the back, where it continues fairly unproductive. The depreciation northward should be only temporary, and as soon as practicable, work in that direction will be resumed, seeing that the branches of pyrite met with, when excavating for the new shaft tackle, are still in front of the stope. I have effected considerable reductions in the cost, all new work not immediately required being stopped.

ST. JOHN DEL REY.—Telegram from Morro Velho via the United States: Produce 12 days (first division of October), 6000 oltz., value 22325; yield 2 1/2 oltz. per ton. Loss for the month of September 15000.

UNITED MEXICAN.—Mr. Hay, Guanajuato, Sept. 21: Mine of San Cayetano de la Ovejuna: In the frente of San Juan west the lode is increasing in width, and measures now 60 centimetres, and the ore is more plentiful in it. Last week 133 cargoes were sent to Duran from the end, and 50% from the stope; total, 63 cargoes. From the pozo No. 20 of San Juan we have remitted to Duran last week 19 cargoes of good ore. In the frente of No. 2 of San Juan west lode measures now 95 centimetres in breadth, all in ore of a first-class, of which 34% cargoes were sent to Duran. In the frente of San Juan east the lode looks well, is 1 1/5 metres broad, all in better ore than the end west. We remitted from this end 57% cargoes to Duran last week. In the frente of Santa Rosa west the lode again much broader, had measures now 75 centimetres, all in good ore. From this working 25% cargoes has been remitted to Duran last week. In the frente No. 5 of San Andres east the end hole in 1st week in the pozo No. 3 of San Andres. On the 22nd instant they remitted to Duran 33% cargoes. In the frente No. 7 of San Andres east the lode is now 1 1/2 metres broad, but the ore is inferior to the former yield, and has to be carefully picked to bring up the ore; we sent 8 cargoes to Duran. In the frente No. 8 of San Andres east the lode measures 50 centimetres in width, and of these 25 centimetres to the alto are of a very good class. We also observed that on the 25th the ore is better than in the end; we remitted 31% cargoes to Duran. In the frente No. 9 of San Andres west the ore in this working has not improved, and the lode is only 40 centimetres broad, with little ore in it. 11 cargoes were sent to Duran. In the pozo No. 3, continuation of San Andres, the lode is getting broader, but the width of the ore is only 35 centimetres. As we begin to have water in this winze we have been able to send to the hacienda only 2% cargoes during last week, and the difficulty in sinking will augment as the water increases. In the pozo No. 4 of San Andres the winze with holes on the 25th the ore is better than in the end; we remitted 31% cargoes to Duran. From the 2nd of the workings produced last week 20% cargoes, and I sold 5 cargoes 2 arabas 6 lbs. of benito, making a total extraction for the week of 540 c. a. g. The stock of ore not yet assayed in Duran was last Saturday 4883 c. a. g. Return from the Mine of San Cayetano de la Ovejuna for the week ending Sept. 22, 1883, 87351.24; outlay, 9.351.19.—Finance: My cash balance on the 22nd inst. was \$11,334.13, without any liability.—Quicksilver: On the 22nd inst. the stock of quicksilver in Duran was 21,732 lbs. Estimated value of tortas and ores on hand and under reduction \$78,153.

ORGANOS GOLD MINES.—An extraordinary general meeting of the shareholders of this company was held yesterday (Friday), when the resolutions passed at the meeting held on Oct. 12 were unanimously confirmed by those present. Reports have recently been received from the mines, and copies of these were posted to the shareholders on Wednesday last. They were considered to be of the most satisfactory character, and at the meeting several private letters were read from parties in Colombia which fully bear out all the statements hitherto made respecting the mine. It was stated that a considerable number of shares have already been applied for, and the feeling was that the shareholders should immediately subscribe for their pro rata proportions of the new issue, those present agreeing to take their share.

ARI'S BIRMINGHAM GAZETTE.—Under the new proprietary—Mr. Victor Milward, Chairman, and the Right Hon. Lord Windsor—Lieut.-Colonel the Hon. G. Windsor Olive, M.P., Mr. Alfred Arthur Sylvester (manager), and Mr. Arthur Wenham, directors—considerable changes and improvements have been effected in the Birmingham Gazette. The journals have been permanently enlarged, the columns have been lengthened to an extent equal to three extra columns per day, while on Thursday the paper has been augmented to fifty-six columns, representing an increase of eleven columns. Each of the departments has been strengthened, numerous special 'features' have been added, and the paper is now printed by entirely new machinery, which is pronounced to be the most complete obtainable. This is gratifying, as the Gazette is one of the oldest (established in 1741) and best known papers in the kingdom, and possesses a large influence amongst the wealthy classes throughout a wide district. Under the new proprietary energetic efforts will be made to render the Gazette a most useful and popular paper in regard to its comprehensive news supply, its literary articles, and its commercial intelligence.



## WATSON BROTHERS' MINING CIRCULAR.

WATSON BROTHERS,  
MINEOWNERS, STOCK AND SHARE DEALERS, &c  
1 ST MICHAEL'S ALLEY, CORNHILL, LONDON

In Mr. Watson's "Cornish Notes," published in the *Mining Journal* of June, 1883, he referred to his visit on the 16th of that month to Drakewalls Mine, then making a large profit and under the management of Capt. Gregory, who took him over the mine, and rendered him every attention and assistance in making him acquainted with all the operations and the principal points of interest.

And finding that the same Capt. Gregory had taken charge of Langford for the liquidator, and has made a discovery in the 30, Mr. Watson wrote him calling attention to their meeting in 1863, and asking him to give his open, honest, and candid opinion of Langford as a speculation. We now publish his reply without comment.

"Langford, Oct. 17, 1883.—Dear Sir,—I perfectly remember with some degree of pleasure when we met at Drakewalls some 20 years since.

"Therefore, in reply to yours of yesterday, respecting Langford Mine, I beg to give you my frank, candid, and faithful report of the property. The discovery we have made in a stope in the back of the 30, near Malachi's shaft, within a short distance of where the old company raised so much rich silver and silver-lead. The present workings of Langford, you are aware, are chiefly above the 40 fms. level, east of your engine-shaft, and which have been very productive from the 40 to surface, and I have no doubt as the 50 fathom levels are driven from your present engine-shaft the same deposits of rich silver and silver-lead ore will be met with, and thus a new mine will be laid open. We are now raising some very good ore from the back of the 30 east, where the strata is all that can be desired. I can see no cause why the same rich deposits of ore may not be found in the deeper levels when fairly brought forward to the ore ground.

"In addition to this part of your property, there is a very extensive piece of undeveloped mineral ground west from engine-shaft on the course of the silver and other productive lodes of this district, and from these lodes east of your engine-shaft in Langford Mine the greatest deposits of rich class ores have been raised.

"Seeing, then, that west of your engine-shaft, up to the present time, but little has been done in the various productive lodes below the shallow adit, or merely surface working, and as these are intersected in their westerly course, and no doubt greatly influenced by the silver-lead producing cross-courses of the Callington mines in general, and from which, in these mines, tens of thousands of pounds worth of rich mineral have been raised. With such positive facts before us, my candid opinion is, in Langford, if fairly and energetically developed, you have a sound and valuable property.

"The engine-shaft being now 60 fms. in depth, has drained the western ground so as to admit of its being cheaply worked and at a heap rate.

(Signed) "THOS. GREGORY."

The West Kitty lode runs through East Blue Hills, and may be intersected in Gumpas' adit, which has been cleared for a long distance. We shall, however, be able to say more about this shortly, probably next week.

The agent of Prince of Wales wrote on Monday—"We are hauling to-day a splendid rich pile of copper from the 102 west. Nothing like it has been seen since its palmy days."

A "Correspondent" in last week's *Journal* endeavours, for some reason best known to himself, to throw cold water upon the New Langford Cost-book Company. We can assure him, however, and the shareholders, too, that whatever is done will be done openly and legally. If the company is not carried out the liquidators will have no alternative but to sell the machinery piecemeal, or as a going concern, in which case there will be nothing whatever for the shareholders. We have not only a large stake ourselves, but our friends are also deeply in it, and our object is to save the mine, and consequently loss to the shareholders. And there is nothing we apprehend against the spirit or letter of the Cost-book in the plan proposed, that is to divide the company into 25,000 shares and make a call of 5s. per share on the lot. The company would purchase the property of the liquidator for £6257.—15000, in cash to pay debts and 31250, in shares with 5s. paid. Thus the holder of 100 shares in the old company, if he took 100 in the new by paying the call of 5s. upon them, would have 100 more from the liquidator 5s. paid, making 200 at 2s. 6d., and they would be quoted at 5s. This plan would also give 16250, working capital and enough to carry on the mine for 12 or 18 months without any further call.

The news from Prince of Wales is very cheering in these times; the discovery is in the 102 west, one of the points expected, and the agent reports that in five days he broke and dressed from the stope 12 tons of solid copper ore of high percentage; and the miners say they have never seen such rich rocks of ore from the mine, under the old working, and when the mine paid dividends.

At West Crebor the 76 end east is looking like coming into ore.

We will endeavour to answer the enquiries respecting Killifreth and Bedford United next week.

## Mining Correspondence.

## BRITISH MINES.

ABERDUNA.—R. Prince, Oct. 25: In the 66 cross-cut we have, I am glad to say, intersected the lode to-day. I shall be able to report about the value in my next. The rise in the 112 east has a very nice show of lead. The shaft is going down fairly well, considering how hard the ground is.

ANDERTON TIN.—W. J. Bowhay, Oct. 24: I have explored the 20 west 46 fathoms. Our progress is still impeded by a large pile of broken tinstuff heaped quite up in this level, which the men are busy clearing back; and I hope in two or three days to reach the west end of the drive, which, I think, may be 3 or 4 fms. further, and appears to be close up to the cross-course. The men shall be set to cut this through once we reach the end. Our drawing-engine is now being delivered, and shall be got to work as soon as possible. The skip-road is ready to go in, and very soon the stuff now blocking our level shall be drawn up to the stamps. The lode in the western end, at adit level, never looked better than now, and is letting out a big stream of water, and the stope is yielding some fine stuff for the stamps. The engine and all the machinery are working well, and good progress is being made in all departments, dressing included.

BEDFORD UNITED.—H. Trezise, Oct. 23: There is no change in the 115 east west on the north lode, but the 103 west is looking more promising than for some time past.—McCallan's Shaft, Bridge Lode: The shaftmen are getting on fairly well in sinking. The ground in the western end of the 62 is favourable for driving, and looking very congenial for the production of copper ore. There is a nice leader of black and yellow ore in the present end, which, in my opinion, will lead to good results. In the same level east the lode is 2 ft. wide, producing ore and muddle. The drive in the 42 east is by the side of the lode. We have not taken down any lode in this end for some time past, but, as soon as convenient, we shall do so. Looking at the character of the ground, I hope to find the lode improved the next taking down. Nos. 1 and 2 stopes, in the back of the 42 east, are worth respectively 100, and 80, per fathom. In the 30 east the lode is not taken down. The stope in the bottom is worth 130, per fathom. I consider our prospects throughout the mine very encouraging, and hope in a lift or two more sinking the shaft to find a good deposit of ore.

BLUE HILLS.—S. Bennetts, R. Harris, H. Gripe, Oct. 24: The 65 east end on the Pink lode is worth 50, to 55, per fathom. The Balduh lode in the 54 west end is producing some low quality tinstuff, but not of much value. The 42 east end is just now unproductive, and the 20 east is worth 50, to 60, per fathom.

CARN CAMBORNE.—W. C. Vivian, Oct. 20: In the 105 fms. level cross-cut from engine-shaft towards the south lode we have now advanced 15 fms., and must be within a very short distance of the lode. The granite continues hard in this drive. In the rise in the back of the 95 fms. level, west of sump, on the south lode, we find the quantity of copper ore in the last few feet decreasing. As, however, we have driven 25 fms. in this level through a lode composed of fluor-spar and excellent copper ore, and having a good size, accompanied by the most favourable appearances indicating still greater productivity in going below the level, we are encouraged to look to the 105, now so near the intersecting of this lode, for better results than we have yet obtained. It seems likely that the 105 will, on the cutting of the lode, at once drain the 95, and thus allow of our sinking below the latter without delay, where I think it probable that we shall make a good discovery. The appearances in the 40, west of engine-shaft cross-cut, on north lode, are still of a favourable character, there being copper ore scattered throughout the entire width of 12 ft., but it is not thus far sufficiently concentrated.

CATHEDRAL CONSOLS.—Stephen Davey, S. Davey, jun., Oct. 25: We are pleased to say our prospects are improving. The lode in the shaft is improving

in appearance. The lode in the 74 still maintains its value for tin. The lode in the 54 east has now become compact, and producing a little tin. We shall speak more definitely on this point next week.

COLLACOMBE CONSOLS.—William Skewis, Oct. 25: The engine-shaft is set to sink to the 102, and will be put forward to that point as quickly as possible. The lode in the 96 west is 4 ft. wide, yielding saving work for copper. In No. 1 stope the men are for the time employed in putting stuff in back of the level. The lode in the 72, west from engine-shaft, is 3 feet wide, worth 1 ton of copper per fathom. The lode in the 110, east of cross-cut, is 2 ft. wide, producing good copper ore of a rich quality, and likely to improve quickly. The western end of this level is worth 1 ton of copper ore per fm. All other places the same as last reported. The dressing is going on favourably.

COED-Y-FEDW AND PANTY-BUARTH.—A. Prince, Oct. 25: We are urging on all our drivings at the 90, 100, and 112 so as to open up large reserves of lead ground. In the 90 west we have effected a communication with the 100, which has afforded good ventilation, and, I think, opened up a section of ground that will produce very largely; there are great rocks of lead to be seen just as we have had for some time past. The discovery that I announced in my last promises to quite equal my expectations; this bottom level is in a piece of ground that has been thought very highly of here for a long time past, it is entirely unwrought, and looking at the appearance of the lode to-day we can only come to one conclusion—that our prospects in this direction are splendid. Trevaun's string has very much improved, and here also we have a most pleasing sight. The arrangements at the dressing-floors may now be said to be complete, with the exception that after a time we shall want another jigger; but as our ore is so cheaply dressed, any addition in this department is very trifling.

GREGGOG.—T. Hotchkiss, Oct. 25: Messrs. Shaft, 130 Cross-cut: I have today found some spots of lead in the forebreast. Here the ground is jointy, and the joints are going in the direction of the cross-cut. The 100 west is looking better; lode very strong, 4 ft. wide, with two good walls, and about the middle of the lode is a nice mixture of blende, with a few stones of good quality lead ore. This latter came yesterday. The driving out from the bottom of the winze below the 60, there is no important change here. I expect this to improve as we drive eastward, as we have passed through better ore in sinking. I think it will be very advisable to sink a new shaft from surface, east of present shaft, to go down to meet this run of ore.

DERESBY MOUNTAIN.—William Scudow, Oct. 24: In the rise in roof of No. 5 intermediate level the lode is not fully so rich as it was last week, worth now 1½ ton of lead ore per fathom. This slight change I regard as temporary, the lode being subject to such changes frequently. The clearing up of the sump below No. 4 on Blindman's bunch progresses very fairly; we are now down from 3 to 4 fms. below the level and have not yet reached the bottom, but the workings here are bigger than we have seen them before, which I think indicates there being a good deal of debris yet to clear below us, which, if so, will be most favourable to the getting down of New Shaft. At surface we have cleared up the old sink to the bottom which is near 4 fms. deep, and have since been squaring it down, making it to a proper shaft, and are now fixing the square timber, collaring up the top part of it, and hope to finish it to-morrow, when the sinking will be at once resumed.

DEVON GREAT CONSOLS.—Isaac Richards, Oct. 25: Wheel Josiah: In the Count House shaft sinking below the 144 the lode is 3 ft. wide, of a promising character, and yields small quantities of copper and muddle ore.—Wheel Emma, Inclined Shaft: In Ghanfield's rise in the back of the 137 east the lode is from 3 to 4 ft. wide, and worth 2 tons of copper ore, and 3 tons of muddle per fathom.

New Shaft: New Shaft, 205 east, the lode, part carrying 4 ft. wide, yields a little good quality copper ore and 4 tons of muddle per fathom.—Railway Shaft: In Southcombe's winze sinking below the 190 on the south part of the lode, the lode, part carrying 3 ft. wide, is composed principally of capel and quartz, with a little copper and muddle ore interspersed. In the 160 west, on the south part of the lode, the lode is 3½ ft. wide, of a promising character, and yields good stones of copper and muddle ore.—Watson's: In the engine-shaft sinking below the 100 the lode is 4 ft. wide, and continues to yield some saving work of copper and muddle ore. The general character is also of a promising kind, and the other points of operation are working well.

DEVON GREAT UNITED.—I. Richards, Oct. 25: In the 120, east of Willeford's shaft, the lode is being carried by the side of the lode for more speedy progress. In the 120, west of Willeford's shaft, the lode is from 3 to 4 ft. wide, and worth 2 tons of copper ore and 2 tons of muddle per fathom. In the 104, west of Willeford's shaft (above the recent discovery in the 120), the driving of which has been recently resumed, the lode, which was poor, has already assumed a very promising appearance, and is now 3 ft. wide, composed of capel and quartz, with muddle and some saving work of copper ore. In the cross-cut north at the 60, west of Watson's shaft, on the middle lode, the ground is tolerably favourable for progress, and congenial for the production of mineral.

DRAKEWALLS UNITED.—M. Bawden, Oct. 25: We are making good progress in putting in skip-road and securing the engine-shaft from the deep adit to the 90, and expect to complete the same in another fortnight. The new tram-road will be laid in the 80, east of Mathew's shaft, within next ten days. The clearing of the shaft and the pits at the 80 is proceeding in a satisfactory manner. All the pitches and bargains are producing the usual quantity of tin, and we shall have another 10 tons for sale within the four weeks from the date of last sale.

EAST BOTALLACK.—T. Trahair, Oct. 24: Since the last report we have sunk the engine-shaft 1 fathom; the lode maintains its size and quality. The lode in the 10, east of shaft, has very much improved since last reported. The 10, driving west of shaft, is opening tribute ground; the tributaries in the back of this level are getting fair wages at 10s. in 12. The adit end, driving east of the shaft, is looking better since we have driven through the cross-course. The adit end, driving west, is looking just the same as last reported. The tributaries in the adit level are raising a fair quantity of tinstuff, worth about 60 lbs. of tin to the ton of stuff. The stamps and machinery are working well.

EAST BLUE HILLS.—S. Bennetts, W. K. Mitchell, Oct. 24: There is not much change to notice in reference to the eastern shaft during the past week. We are expecting to hole the rise from the adit to the 40 in the course of another week. The stope in the back of the adit continues worth about 100, per fm.

EAST CARADON.—Wm. George, John Kileow, Oct. 24: The following is a report of our setting on Saturday last:—To drive the 130 cross-cut south, by six men, at 30, per fathom. To drive the 70 west on the south lode, by four men, at 50, per fathom; lode 1½ ft. wide, composed of capel, muddle, and good quality copper ore. To rise in the back of this level, by four men, at 70, per fathom; the lode here has also a very promising appearance, and looks favourable for easy improvement. We have set four tribute pitches to eight men, at 9s., 12s. 6d., and 13s. 4d. in 12.

EAST WHEEL ROSE.—W. Skewis, T. Doidge, R. Gill, Oct. 23: Penrose's Engine-Shaft: The progress here has not been so great as we could have desired, owing to the difficulty in getting the lift down through the timber and stuff. We are hopeful, however, that this will be of short duration; at any rate, the clearing of another 10 fathoms or so will enable the water to be drained sufficient to admit of the second pillar being placed in North West Road, and have since south from Foster's shaft has been drawn through the great iron course, and we are now within about 3 fathoms of the eastern portion of the east lode, and which we expect to reach in time for next report. The 50 west, on Innes' lode, has to-day struck the eastern wall of the west part of east lode. We expect to be in a position to report favourable results on this part of east lode as soon as the end has passed through it, and hope to find Innes' lode rich in lead on the western ridge of the east lode. Baynard's shaft is cleared 9 fathoms below this level (50), and will be continued so as to reach the 60 as quickly as possible.

The 40, south of the adit, is the subject of the adit, and the side-pierced to in our previous reports, and the lode now becoming well defined, easy for development, and producing good saving silver-lead, with every appearance of increasing quantities as the end is extended southwards. This (40) level west on Long's lode to intersect Middleton's lode is being extended with great speed, and the character of the ground is improving for the production of lead, and we are very hopeful of important discoveries for lead when Middleton's lode is reached. The pitches here are quite as good as ever, and the machinery in this part of the mine is all in good working order.—North Wheel Rose: The bearings and plunger bottom of the adit fixed in their place, and also the first piece of main-rod. The 20-in. lift, together with the main-rod, we expect to have all fixed in their places to the 65, and ready to work in a month or five weeks from now, and also a 10-fathom drawing-lift below that level. This being done the mine will be drained to the bottom of the downright as fast as the men can fix the work in the shafts; therefore, we look with great expectation to speedily getting hold of the fine courses of lead which will be obtainable when we reach the bottom of this mine.

BAYNARD.—R. Rowe, Oct. 20: The part of the lode carried in the 117 east is 6 ft. wide, yielding a kindly appearance, yielding sulphur and arsenical muddle, with good quality copper ore. The winze sinking below the 117 east has been continued by the side of the lode during the past week. Nos. 1, 2, and 3 stopes in the back of the 117 east continues to yield the usual quantity of muddle and ore. The lode in the stope in the back of the same level, east of rise, is yielding 10 tons of arsenical muddle per fathom. The stope in bottom of the 105 west of winze is improved, yielding 10 tons of arsenical muddle per fathom. The stope in the bottom of the same level east of winze is yielding 6 tons of muddle and ore per fathom. No. 1 stope, in the back of the 105 east, is yielding 7 tons of muddle per fathom. In the 35 east is 4 ft. wide, mixed with capel, muddle, and a little copper ore. Nos. 1 and 2 stopes, in the back of the 70 east, is yielding 10 tons of muddle per fathom.

GODDARD'S LEAD.—R. H. Vivian, Oct. 25: We continue to push on the eastern adit level with all possible speed. This end is a little easier for driving this week, and shows more lead ore in the hanging side than previously. In the bottom of the forebreast we have loose ground in the lode, with a very kindly mixture of lead and blende. We are evidently passing over a good vein, as there is a strong feel of water coming up from the bottom. I feel certain that we have a good body of lead close under this end.

GOODEVERE.—R. Knott, Oct. 24: There is no change to notice in the underground workings this week. The parcel of tin sold realised 56s. 2s. 6d. per ton.

GORSEDD AND MERLLYN.—Oct. 25: From the 70 east the branch of lead from the forebreast continues to increase in size and value as we proceed.

GREAT LAXBY.—F. Redcliffe, Oct. 24: Casing, &c., of Welsh shaft to the bottom was completed, and driving at the 271 commenced as promised in our last report. In the 260 and 261, a short cross-cut has opened an additional branch of lode, containing but little ore, but looking more promising. There is no new feature in the 247 or 235 north, except that at the latter place a stream of water has just been met with, which we expect will still lower the water in the vicinity of Dumbell's shaft. There has been a little more ore in bottom of engine-shaft during the past week, and the value 150, per fathom. The 235 south, although a strong lode, contains stones of ore only.—Dumbell's: The sinking of this shaft has been completed to the 245, and the casing, &c., is nearly complete, so that driving at that level will be commenced next week. The 240 north is worth 120, per fathom; the 200, 150, per fathom; the 185, 400, per fathom. The two former being the average value for some little time past, but the latter being a great improvement during the last few days. The 170 north is worth 120, per fm. The 70 south contains but very little ore. The adit end now driving upon the eastern branch has contained a little ore for some fathoms, and is a better looking lode than has been seen in that level for a long distance. I have not mentioned any of the stopes, &c., as there is no change in them worthy of notice since our last report.

GREAT WEST.—FERRO.—John Curtis, Oct. 23: In the 20 west the lode is looking better, and, from a very small change, is near at hand. It is producing good stones of lead, and letting out more water. The 20 east is also improved, and yielding lead of a good quality.

GREEN HURTH.—J. Polglase, Oct. 18: The 44 end, north of Swan's shaft, is worth about 3 tons of ore per fathom.—No. 1 stope, south of No. 1 winze, is

worth 1½ ton per fathom. No. 2 stope, south of No. 1 winze, is worth 4 tons per fathom. No. 3 stope, south of No. 1 winze, is worth 3 tons per fathom. No. 4 stope, north of No. 1 winze, is worth 5 tons per fathom. The stope in back of Standage, is worth 3 tons per fathom. The end, north on No. 2 vein, is small, with spots of ore. The 44 end, south of Swan shaft, continues about the same. Trial drift, near Robinson's sump, in back of the 30, is worth 2 tons per fathom. We have plenty of water for the pumping-wheel, and dressing is going on as usual.

HARDSHINS.—Manager, Oct. 19: We have got the shaft cleared of rubbish and old deads and have engaged nearly all the week putting timber in the drift. We have also been shooting off the Sun side; in doing so we have uncovered a fresh vein (which the old men had gradually lost), going west in the vein.

HAREHOPE GILL.—George Robson, Oct. 20: During the past fortnight No. 2 west level has been driven 10 fms., and No. 2 east 9 fms.

HEALEYFIELD.—John Trelease, Oct. 19: I beg to hand you the following report:—Since my last, we have suspended three of our tributary bargains, in consequence of the low price of lead. Two of the partnerships have left, and the others have taken some old ground on tribute at 45s. per bing in the back of the middle level. We have now 30 pickmen employed in the mine, mostly working on tribute prices ranging from 40s. to 45s. per bing. The average yield for lead ore in the eight pitches ranges from 10 to 15 cwt. per fathom. We have intersected a strong string in the west cross-cut at the Success level. We drove the cross-cut in the pit, and have a few fathoms to rise to intersect the sill above, which I think will be productive for lead. Though we have intersected this vein in the pit, it has highly mineralised leaders of quartz with ore in it. I purpose to drive north on it a few fathoms, then rise up through the sill above. We are getting forward now with the new chat mill, &c., at the washings. We hope to start the machinery some time next week. Fair progress has been made in the Whitwell shaft this week. We shall have sunk over 2 fms. by the end of the week, and the ground still congenial for sinking. The machinery is working well. The Derwent level is still closed, which retards our progress.

HINGTON DOWN.—Thomas Richards, Oct. 24: The 52 has been extended east of the south cross-cut 12½ ft.; the lode is without important change. The shaftmen are now employed cutting ground, dividing and casing, putting in skip-road, &c., from the 40 to the 54. This work will require about a fortnight to complete, when the 52 will be immediately resumed. The lode in the 40 east is large (over 7 ft. wide), containing capel, quartz, arsenical muddle, &c., with occasional stones of copper ore, and towards the south part a little tin.

KIT HILL GREAT CONSOLS.—Isaac Richards, Oct. 23: The ground at the tunnel level has slightly improved during the past week, and 2 fms. 1 ft. have been driven.—North Shaft: In the 88 west the lode—part carrying 4 ft. wide—is of a most promising character, and yields a little tin ore. In the 88 east the lode is 4 ft. wide, composed of capel and quartz, with peach, blende, muddle, and a little tin ore. In Spargol's winze, sinking below the 75 west, the lode is from 4 to 5 ft. wide, of a very promising character, and yields good stones of the ore. There is no alteration at any of the other points of operation throughout the mine.

LANGFORD.—T. Gregory, Oct. 25: We are clearing the 20, west of engine-shaft, in order to examine this part of the mine, and ascertain the character of the lode, &c. We are able to go forward therein about 50 fms., where there is an accumulation of stuff from the backs above. This will be removed as fast as possible for a further advance. I have broken some of the lode at this point, which has a very promising appearance, being composed of soft quartz, peach, capels, and a little copper and muddle. The lode in the stope in back of the 30 east, near Malachi's shaft, is worth full 50, per fathom. The parcel of silver-lead put in store has been sampled and assayed, which gives a produce of 65½ per cent. for lead and 19 ozs. for silver in its undressed state, as per certificate of assay sent you yesterday. Engine and pitwork working satisfactorily.

MELLANEAR COPPER.—John Gilbert, Oct. 24: We have met with some floors of spar and muddle in the 30 cross-cut, south of Gundry's shaft, which has made the ground a little harder for driving. The men are making fair progress in driving the 70 cross-cut north from the main lode, and the character of the rock is very similar to what it has been for some time past. We have cut the south part of the lode in the 80 cross-cut, east of Gundry's shaft. It is 2 ft. wide, and yielding 1 ton of copper ore per fathom, but rather discoloured with patches of kallas; we shall open a level on it westward, where we expect to meet with an improvement. The lode in the 100, west of shaft is 5 ft. wide, and still yielding 2½ tons of ore per fathom. In the 110, west of shaft, the lode is 6 ft. wide, yielding 1 ton of copper ore per fathom, and some saving work for tin. The lode in the 110, east of shaft, is 5 ft. wide, yielding 1 ton of copper ore per fathom, and good stones of tin. The rise in the back of this level is yielding 2 tons of copper ore per fathom. In the 120, west of shaft, the lode is 4½ ft. wide, composed of spar, muddle, and copper ore, and yielding of the latter 2½ tons per fathom, a very strong and promising lode. The rise in the back of this level is yielding 3 tons of ore per fathom. The lode in the 120, east of shaft, is 3 ft. wide, yielding 2½ tons of ore per fathom, and the ground is much easier for driving. The rise in the back of this level is yielding 2 tons of ore per fathom. The winze in the bottom of the 100, west of the old engine-shaft, is yielding some saving work for copper ore. There is no change to notice in other part of the mine.

MID-DEVON COPPER.—J. Neill, Oct. 20: A Shaft: Water in fork to bottom of 80. Machinery working at 3½ revolutions to cope with water.—C Shaft: Cross-cut north from extreme end of 50 wrought by six men and three boys with rock-drill on branches of ore referred to in last week's report is gradually improving in the yield of ore. The strata retains all its favourable features, and the branches still appear to tend to one point. At their junction I expect to find a large deposit of ore. The strata is favourable for working. The stope in back and side of the 50 east, worked by two men, is without any change.

MONA CONSOLS.—T. Mitchell, Oct. 24: The main lode will require to drive west from the bottom of the engine-shaft. The lode will be driven north-west to begin with, in order to reach the main part of the lode. The lode is wide at this place.

MOUNTS BAY CONSOLS.—Wm. Argall, John Rowe, Oct. 20: No. 1 Lode: In the 20, driving west of new shaft, the lode has improved, worth 50, per fm. In the 20, east of Pengerrick-lane shaft, the lode is worth 50, per fathom. We have seven tribute pitches working in this lode. On the Nos. 2, 4, 5, and 10, at new engine-shaft, the ground is just the same as last reported. MOUNT CARBIS.—W. Tregey, George Johns, Oct. 25: The engine-shaft will be at the 60 by the end of this month. The lode in bottom of the 50 is worth 250, per fathom. We shot up here yesterday the finest rock of tin we have seen in any mine for many years. The carbons at the 35 is still producing some very good tinstone, and showing signs of improvement.

NEW CARADON.—N. Richards, Oct. 24: A part of the water-wheel is delivered on the mine, but the weather being wet the masons are not making the progress we wish in building, loadings, &c. I bought some of the pitwork, which I expect will be delivered this week, and all necessary repairs to the drive will be made for fixing the same as early as the weather and the nature of the work will admit.

NEW KITTY.—W. Vivian, Oct. 25: Thomas's shaft is now down 17 fms. below the adit level on the course of the lode; lode about 3 ft. wide, producing tin, copper, and muddle. I see no reason to doubt but that this lode will prove productive when the depth is reached where it commenced to make tin in the adjoining mines. The 50 driving east of engine-shaft; the lode at this point has an improved appearance.

NEW TREASAS.—J. D. Fraser, Thomas Edwards, Oct. 25: We have fixed our pumping-gear, and are getting on with the erection of flat-rods, also the erection of the stamping and pumping engine. We have been delayed a little in the progress of the foundry not being able to complete their work in time. Some progress has also been made in sinking the new shaft on the rich lode mentioned in our last.

NEW WEST CARADON.—N. Richards, Oct. 24: Nothing calling for special remark has taken place in the 38 cross-cut, driving south of Hallett's shaft, since reported on last week. Olymo's lode at this level, driving east of same, is producing stones of copper ore. The same remark will apply to the little north lode driving west at this level. A stope in the back of the 40, on the main lode, will yield 1 ton of copper ore per fathom. Two stopes in the back of the 30, on this lode, will yield together 2 tons of ore per fathom.

NORTH BLUE HILLS.—S. Bennetts, Oct. 24: There is not much alteration in the north lode below the adit since last reported on, it being about 1 ft. wide, and containing occasionally some good tinstuff, although somewhat irregular.

NORTH GREEN HURTH.—J. Polglase, Oct. 18: The ground in the deep adit cross-cut continues about the same. The south drive from deep level shows a little more vein occasionally, but, generally, the whole not much change. The level in the Hospital property is without change.

NORTH PENNETHAL.—Stephen Davey, Oct. 23: I am pleased to say we are breaking good stones of tin from the winze sinking below the 108; others without change. The new work is progressing satisfactorily, excepting the bob-plat, which has become a little harder than we expected.

NORTH TRESKERRY.—Pryor and Son, Oct. 18: The Nos. 1 and 2 tin lodes in the deep adit level east and west of cross-cut continue to look well. No. 1, west of cross-cut, is worth 170, per fathom for tin, and No. 2, 220, per fathom. The two tin lodes being at a whole ground throughout the adit must be considered a valuable property of itself, and we consider the discovery made here is quite equal to West Kitty at the same depth. Every preparation is being carried out for the purchase and erection of the winding-engine and steam-captain, also the necessary work for the working of the 80-in. pumping-engine for the draining of the rich copper lode. We are getting on as fast as circumstances will permit with the air-compressor house, &c.

Pryor and Son, Oct. 25: There has no particular change taken place in the underground department worthy of notice since our last week's report. The engine is going through the mfr. or parts of the 80 in. pumping-engine and boilers, and we find that one of the latter will require a little repair, through long standing idle; this, as well as other trifling remodelling to the engine, is being carried out as fast as possible. The carpenters are engaged in covering in the air-compressor house, likewise the masons in making the communication from this to the engine-house; the smiths are making holding-down bolts for the air-compressor, and we hope to be able to send you the price for the winding-engine and steam captain to-morrow for your approval or otherwise.

OUEL TOR.—H. Bulford, J. Rodda, Oct. 25: The lode in the bottom of the new eastern shaft continues to look well for tin, and we are making good progress in sinking. The 80 end, going east, is producing good work for arsenical and tin ores. The stope in the eastern part of the mine are looking better. In the western part of the mine the stope are looking just the same as for some time past. It being our setting on Saturday a full report will be sent you next week.

PANDORA.—Oct. 25: The lode in the 45 west is improving, looking most promising for good ore shortly. Other points will bear out last week's valuation. I shall put alterations to crusher and jiggers in hand at once.

PARYS COPPER CORPORATION.—T. Mitchell, Oct. 25: The ground in the 90, east of the cross-cut, continues to look much the same as when last reported. The lode in the 90, west of cross-cut, is producing patches of copper ore, inter-mixed with sulphur and blende; this end does not present so nice appearance as it did a few days ago, but still it looks kindly.

PENHALLS.—S. Bennetts, J. G. Gwynne, Oct. 24: The 80 west end is without much change during the past week. The 70 east end is worth 50, per fathom. The 60 east end is producing low quality tinstuff, but not of much value. The western section of the copper lode has just been passed through, and found similar to the eastern part, in addition to some small veins of tinstuff in the kallas just under it, indicating the presence of a tin lode near at hand. The Balduh lode in the 42 west end is worth 60, to 70, per fathom.



**EAST BOTALLACK.**—This mine is opening out remarkably well, monthly sales of tin are being made, which it is expected before long will cover cost of working, and at the 30 a small profit is expected. In sinking the shaft the lode continues its size and value.



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## The Mining Market: Prices of Metals, Ores, &amp;c.

METAL MARKET—LONDON, OCT. 26, 1883.

IRON.	£ s. d.	£ s. d.	TIN.	£ s. d.	£ s. d.
Pig, G.M.B., f.o.b., Clyde...	2 5 0-2 5 1 1/2		English, ingot, f.o.b...	96 10 0-97 0 0	
" Scotch, all No. 1...	2 5 0-		" bars...	97 10 0-98 0 0	
" Welsh, f.o.b. Wales...	5 5 0-		" refined...	99 10 0-100 0 0	
" in London...	5 15 0-		Australian...	94 10 0-	
" Stafford...	7 2 6-7 5 0		Banca...	- nom.	
" in Tyne or Tees...	5 15 0-5 17 6		Straits...	94 10 0-	
Swedish, at works...	9 10 0-9 15 0				
Rails, Welsh, at works...	5 7 6-				
Sheets, Staff., in London...	8 10 0-				
Plates, ship, in London...	8 10 0-8 15 0				
Hoops, Staff., in London...	7 5 0-				
Nail rods, Staff., in Lon.	6 15 0-7 0 0				
STEEL.					
English spring...	12 0 0-18 0 0				
cast...	30 0 0-45 0 0				
Swedish, keg...	15 0 0-				
ing. beam...	15 10 0-				
Rails at works...	4 10 0-4 15 0				
" Light, at works...	6 5 0-				
LEAD.					
English, pig, common...	12 0 0-12 2 6				
" " L.B. ...	12 0 0-12 12 6				
" " W.B. ...	12 15 0-12 17 6				
" sheet and bar...	13 5 0-				
" pipe...	13 10 0-				
" red...	10 0 0-				
" white...	18 10 0-20 0 0				
" patent shot...	15 15 0-				
Spanish...	11 15 0-				
NICKEL.					
Metal per cwt...	- - -				
Ore 10 percent, per ton...	- - -				
SPELTER.					
Silesian, ordinary brands...	10 0 0-				
special brands...	15 10 0-				
English Swansea...	15 12 6-				
Sheet zinc...	19 0 0-				

\* At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; 1X 6s. per box more than 10 quoted above, and add 6s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.

**REMARKS.**—Our markets opened in the same dull and uninteresting condition characterised them throughout the whole of last week, but later on in certain metals there has been a rather better tone, and prices have assumed a stiffer tendency, and the speculative feeling has been rather more cheerful. However, these little spurts do not tend to create much confidence just now, they are known to arise merely from speculative causes, and not to be caused from influences affecting regular trade; and now that the time is thought to have passed for this year when any substantial recovery can be made in trade no importance is attached to the fluctuations that are made, and few are sanguine enough to look for permanent better rates. The cheapness of prices, however, must sooner or later form a stimulus to business, and they are just now worthy of the attention of buyers both for consumption and for shipment. In many cases they are so low that they cannot well recede further to any great extent, while in almost all instances they are so cheap as to greatly minimise the risk of making losses. They are kept down from unusual causes, the principal of which is over-supply, and if this impediment was removed there is nothing whatever to prevent prices from advancing. Any combination on the part of producers to restrict the supply might bring about this result, and sellers it is well-known often do combine together to achieve this object as well as to keep up prices. In fact, in certain manufactured metals they are doing so at the present time, and although it would doubtless be more difficult for producers to unite together with the object of curtailing production, yet such difficulties might be overcome in face of the unprofitableness of doing business at current rates. There does not seem any probability of reduced supply just at present, but at the same time to continue producing at these low rates is so discouraging that it must be acknowledged there is great inducement to suppliers to do their utmost to raise prices from their present low level.

In the case of iron, for instance, there is some talk of curtailing the production, and a short time back some furnaces in Scotland were damped down, although unfortunately they have again been put into blast; but on this point we shall have more to say in our iron report. Suffice it here to state that the damping down of the furnaces signifies that there is some desire amongst producers to diminish the output and to bring the supply within the requirements of the trade. If such is the case in iron, there is no reason why other metals should not follow, and in the present state of the trade any sensible reduction in supply would be quickly followed by better prices, for the deliveries for the most part are not bad, and it is surely easier to turn out a small quantity at even small profits than to make a large supply at no profit, or even, perhaps, a positive loss. This is a view to which suppliers have recently had to give considerable attention, and they have endeavoured to reduce the cost of supply in every possible way. They have reduced wages, which has caused a good deal of ill will and disputes between masters and men, and it must now be evident that it is not the minimising of the cost of production that is so much required as the actual curtailment of the production itself.

**COPPER.**—The amount of business doing in this metal has not been very large, but the tone has decidedly improved, and during the greater part of the week prices have stiffened daily. The movement has its origin from smelters having made tolerably large purchases, and operators, ever ready to push up prices upon the least symptoms of more favourable features, have used their influence to make the feeling more cheerful, and, temporarily at least, have succeeded in realising somewhat better rates. Prices of Chili bars showed daily advances of about 7s. 6d. per ton day until yesterday evening, when there was scarcely so much strength manifest in the tone, and buyers began to draw off the market, and sellers were more ready to make sales, but to-day the market is again stronger by about 7s. 6d. per ton. It has now to be seen whether this little spurt is but a mere fluctuation, one of those advances which arise from no particular cause, and soon passes away, because it hath little or no foundation. It may be that holders will be able to support their prices for a time, but the permanency will depend chiefly upon forthcoming supplies.

Stocks are too heavy, and current prices so far have failed to check supplies. Unless producers are prepared to do their part in curtailing their output they must be content to make sales at low rates. They have every opportunity of realising fairly remunerative prices if they would be but moderate in their supplies, and keep them within the requirements of the trade. The deliveries are good and have been so for a long time past; speculators are not indisposed to come forward and give their useful aid in pushing up prices, but quotations cannot advance or rather be permanently maintained until suppliers do their part to allow the present heavy and constantly increasing stocks to diminish. The latest returns give no hope that supplies will be reached, and, therefore, the chances of better prices are remote, in fact, notwithstanding the rise made

this week, reduced rates are not improbable, especially if the forthcoming statistics prove unfavourable.

**IRON.**—The market remains in much about the same condition as it did a week ago, and a moderate business is doing in some descriptions of iron. In Wales prices keep steady, in Staffordshire they are somewhat stiffer, in the North a little easier, and in Scotland rather fluctuating. Last week we were able to report the damping down of 15 furnaces in Scotland, but this week's advances show that 10 of them have again been put into blast. It is difficult to understand what has induced makers to adopt this course, and the result will probably be that no better rates will be obtained, while even cheaper prices may have to be accepted. The re-lighting of these furnaces has not made much impression upon the public stock this week, it having swollen to a slight extent only; but at the same time this arises from exceptionally large shipments, and an extensive business done for local consumption. Had the shipments been of an ordinary and usual quantity, say not more than those of the previous week, then there would in all probability have been an increase of some 4000 tons in the public stock. It is not likely that the exports will be continued at such large figures as those of last week, it would be unreasonable to expect it, more than 3000 tons than they were at the same time of last year; on the contrary, this excessive quantity would rather indicate somewhat diminished shipments for the next few weeks, and then if such proves to be the case stocks must again continue to accumulate, and the market continue to suffer from depression.

No wonder that speculators keep outside the market in face of the heavy supply, no wonder that the market drags, and prices are easy, and until makers thoroughly determine to diminish the production, not merely for a week, but until sufficient time has elapsed to cause a marked reduction in existing stocks no permanent improvement can be made in prices. The following returns from Glasgow give the exact shipments, and also the comparative stocks, which fully bear out our remarks on the excessive supply of this metal. The declining tendency in Scotch pigs which characterised the market last week was not arrested on Monday, and business was down to 45s. 1 1/2d., but on Tuesday there was a better tone, and the price advanced to 45s. 3d., which was the nominal closing quotation; but on Wednesday the market was not so strong, and the price receded to 45s. 2d. Yesterday being a Glasgow fast-day there was no market held, and the closing figure this afternoon is 45s. 1 1/2d. The shipments last week were 16,440 tons, against 13,058 tons for the same week of last year, being an increase of 3382 tons, and which makes the total shipments for the whole of this year 533,864 tons, against 524,901 tons for the same time of last year, and 474,112 tons for the similar period of 1881. There are 10 more furnaces in blast now than there were a week ago, the total being 104 against 94, while the public stock has been slightly increased, and amounts to 589,285 tons, against 589,224 tons last week.

The imports of Middlesbrough pig-iron into Grangemouth last week were 8780 tons, against 3845 tons for the same week of last year, being an increase of 4935 tons, and which makes a total increase for the whole of this year, compared with last, of 26,568 tons. The Cleveland market is said to be very flat, scarcely any business being transacted, and prices are again lower, which is partly accounted for by the change made in the action of the Scotch makers. Second-hand lots of No. 3 are offering at 38s. 6d. to 38s. 9d., the latter figure being also makers' quotation, while for warrants buyers will not pay more than 38s. 3d. In the public stock there is a reduction of 510 tons, and it now amounts to 67,427 tons; while the shipments of pigs last week amounted to about 20,000 tons. There is but a small demand for manufactured, and prices are slightly easier, particularly for forward delivery. The price for bars is 52. 12s. 6d. to 52. 15s.; for angles, 52. 10s. to 52. 12s. 6d.; and for ship-plates, 52. 17s. 6d. to 52. 19s. 6d. The report from Wolverhampton shows that there is a slightly better market in that district, and finished iron quotations are rather higher, several firms having secured an advance of 2s. 6d. to 5s. per ton. The price of marked bars is 71. 10s., and for best qualities of the common iron 62. 10s. The price for sheets is 52. 10s. for doubles and 52. 12s. for triples. Business in pigs is dull, but native all-mine qualities are rather firmer, and quoted up to 62. 6d., while there is a large supply of hematite at 60s. per ton. A fairly satisfactory report comes from Birmingham, transactions being reported somewhat numerous for the various classes of iron. Pigs are said to be in better demand, and most makers are reported to have enough orders in hand to carry them over the next quarter. Prices have not improved, but the tendency is stronger, particularly for extended delivery. A fair business is doing in manufactured, the chief orders being for sheets and common bars.

**TIN.**—At the commencement of the week this market was very steady, and a fair business was done in cash parcels at 93s. 10s.; but yesterday, especially towards the close, the market stiffened, and prices were fully 10s. per ton higher. The peculiar characteristic of the market during the week has been that the prices for forward tin has been below those for cash, by which it seems that there is very little confidence existing in the continued stability of the market. In an ordinary way, it is easy to find buyers willing to pay an advance of 10s. or 15s., or, perhaps, a still greater difference for forward tin above cash prices; but now they are reticent in paying 5s. per ton under current rates for sharp cash parcels. Why is this? It may be that it is known that several "bear" contracts are open which will shortly have to be covered, and, therefore, holders are maintaining the prices for cash parcels until those purchases are made. If this is not the cause, it becomes necessary to look outside the market for a reason for this unusual occurrence.

It is not as though there was any scarcity in the stock of tin just for the time being. Nothing whatever can be gathered from the statistics to account for it. Supply and demand remain much on a par, stocks are light and fairly well managed, and, therefore, the reduced price for forward tin, compared with cash, cannot arise from the statistical position of the market. It may be that it is occasioned from the comparatively high value of this metal when taken side by side with other metals, or, still more likely, it may be caused from the general dullness which pervades almost every branch of trade, from the uncertainty of the future and from the fact that in leaving speculative influences and interests out of the question there is no real reason why it should be maintained at the present proportionately high figures. Operators may come forward as they have done in the past and support prices, and thus give very profitable rates to smelters; but otherwise there is no real and genuine cause why prices should be upheld when other metals are being reduced in value.

**STEEL.**—There is very little business doing in this metal, particularly in the North, where prices for rails are reported slightly easier.

**TIN-PLATES.**—There is scarcely any variation in the state of the demand either for cokes or charcoals, but prices for both primes and wasters remain firm.

**SPELTER** has been in more demand during the last few days, and a fair business has been done at market prices. We quote ordinaries at 15s. 10s., and specials at 15s. 15s. per ton.

**LEAD** is very dull, and Spanish is obtainable at 11s. 15s., and English is quoted at 12s. to 12s. 6d. per ton.

**QUICKSILVER.**—The official quotation remains 5s. 5s., but second-hand lots have been sold somewhat cheaper.

The settlement of the usual fortnightly account has occupied the chief attention of the dealers this week; but there has been a fair demand also for one or two mines in which discoveries or improvements have taken place, and they have given a better tone to the market generally. Those mostly dealt in have been Prince of Wales, Wheal Crebor, West Crebor, West Frances, West Kitty, South Devon United, Gunnislake (Clitters), Bratsberg, and a few others.

**TIN** continues dull, and no alteration has been made in the Standards for ore since the 6th. In Tin Shares there is very little doing, and prices are merely nominal. Blue Hills are quoted 1/2 to 3/4; Carn Brea, 3/4 to 4; Cook's Kitchen, 1/4 to 1/2; Dolcoath, 6/3 to 6/5; East Pool, 3/4 to 4; East Blue Hills, 4s. to 6s.; New Kitty, 1/2 to 2; South Condorow, 8 to 8 1/2; South Crofty, 6 to 7; South Frances, 8 to 8 1/2; Tincroft, 6 1/2 to 7; West Basset, 3/4 to 4; West Frances, 5 to 5 1/2; West Kitty, 1 1/2 to 1 3/4.

Wheal Agar, 1 1/2 to 1 3/4; Wheal Basset, 3 to 3 1/2; Wheal Grenville, 6 to 6 1/2; Wheal Kitty (St. Agnes), 1 to 1 1/2; Wheal Peevor, 3 to 3 1/2; Wheal Uney, 1 to 1 1/2; Killifreth, 27s. 6d. to 32s. 6d.; South Kitty, 10s. to 15s.; New Trumpet, 1 to 1 1/2; Mounts Bay, 4s. to 6s.; Tresavean, 6s. to 8s.; West Frances, 5 to 5 1/2; Drakewalls, 4s. to 6s.; East Lovell, 1/2 to 3/4; Goodevere, 1 to 1 1/2. At Pedn-an-drea meetings the accounts showed a loss on four months' working of 1348s., and a balance against the shareholders of 1677s. A call of 4s. 6d. per share was made. The tin sold (40 tons) realised 2154s.

**COPPER.**—There has been a more active business in copper mines this week, and in one or two mines particularly. Prince of Wales, Wheal Crebor, Bratsberg, and West Crebor have been in better demand. Bedford United, 1 1/2 to 1 3/4; Devon Great Consols, 2 1/2 to 2 3/4; Devon Great United, 2 to 2 1/2; Devon Friendship, 2s. 6d. to 3s. 6d.; the operations progress as usual. Sortridge, 2s. 6d. to 3s. 6d.; the driving of the 40 cross-cut proceeds steadily, the ground being still of a congenial character. Mellanear, 3 to 3 1/2; the directors have declared a dividend for the quarter of 6d. per share. Prince of Wales shares been in good demand from 5s. upwards, and leave off 3 to 4; the agent writes to the office of the company that from the discovery in the 102 west he broke and dressed 12 tons of solid copper ore of high percentage in five days, and at present there is no sign of falling off in the lode, but its value is rather increasing. The sampling this week is 70 tons of good ore, and the usual quantity of tin. Gunnislake (Clitters), 1 1/2 to 2. New Cook's Kitchen, 2 to 3.

Wheal Crebors have advanced to 2 1/2, 2 3/4; the 141, or bottom end west, has good ore in it, and is approaching the winze sinking below the 132, where the lode is worth 8 tons of good ore and 3 tons of mundie per fathom. The 132 east is worth 16 tons of copper ore per fathom; a stoep in the back 10 tons. West Crebors have also been in demand, and leave off 4s. to 6s. buyers. The bottom levels look like coming into ore. South Caradon (Limited), par to 1/2 prem. New Caradon, 4s. to 6s.; New West Caradon, 2 to 3; South Devon United,

9s. to 11s.; West Caradon, 6s. to 8s. West Seton, 8 to 9; at the meeting the accounts were written up so as to charge everything to date, and there was consequently shown a debit balance of 7693s. 8s. A call of 2s. per share (4800s.) was made. The copper sold for 715s. 6s.; 65 tons of tin, 3478s. This call will astonish many, but the alteration made is commendable. The report states that Mitchell's shaft is down 8 fms. below the 215, and the lode for 12 ft. long valued at 80s. per fathom. When another level is reached in three or four months, stoping will be commenced. Russell United, 1-16 to 3-16.

**LEAD** mines continue flat, with very little business doing; prices, therefore, are merely nominal. Vans are quoted 4 1/2 to 5. Great Laxey are still weaker at 13 to 14. Roman Gravel, 6 1/2 to 6 3/4; Tankerville Great Consols, 2s. to 3s. The lode in shaft going down to the junction still looks well, and they are setting a stoep in the back of 232, worth 2 tons per fathom. Coed-y-Fedw, 1 1/2 to 1 3/4; East Wheal Rose, 8s. 9d. to 11s. 3d.; Leadhills, 2 1/2 to 2 3/4; Old Shepherds, 8s. 9d. to 11s. 3d.; Pennant, 4 1/2 to 5; Pen-yr-Orsedd, 1 to 2; Sinclair, 1 to 1 1/2.

**FOREIGN MINES.**—The amount of business doing is small, and prices have somewhat declined. Alamillos are quoted 1 1/2 to 1 3/4; Australian, 2 1/2 to 3; Bratsberg, 2 1/2 to 2 3/4; the settled produce of the bulk of the ore by the Mary Owen is 2 1/2 per cent., and the price will be about 13s. 4s. per ton. The turbine and compressors have been set to work, and answer remarkably well. Broadway, 1/2 to 1; Cape Copper, 47 to 49; Chile Gold, 1/2 to 3/4; Chontales, 3-16ths to 5-16ths; Colorado United, 1 1/2 to 2 1/2; Copiapo, 3 1/2 to 3 3/4; Devala Moyar, 3-16ths to 5-16ths; Eberhardt, 1/2 to 3/4; Fortuna, 3 to 3 1/2; Frontino and Bolivia, 1 1/2 to 1 3/4; General Mining, 6 to 6 1/2; Indian Consolidated, 1/2 to 1; Indian Glenrock, 1/2 to 1.

Kapanga, 1-16 to 3-16; La Plata, 1/2 to 3/4; Linars, 3/4 to 3 1/2; Mason and Barry to bearer, 13 1/2 to 14 1/2 ex div.; Mysore Gold, 1-16 to 3-16; New Emma, 1 1/2 to 1 3/4; Nouveau Monde, 3-16 to 1/2. Organos, 3 to 1; we learn from an independent source abroad that the mine is at present about paying its expenses, and that it could do much better with more capital. Orita, 1/2 to 3/4; Panulillo, 6 to 6 1/2; Potosi, 1/2 to 1; Quebrada, 7 to 7 1/2; Rhodes Reef, 1/2 to 3/4; Richmond, 1 1/2 to 5 1/2; Rio Tinto bonds, 100 to 102; ditto shares, 20 to 21; Ruby and Dunderberg, 1 to 1 1/2; South-East Wynad, 1-16 to 3-16. St. John del Rey, 90 to 100; last month there was a loss of 1500s. Tharsis, 6 1/2 to 6 3/4; Tolima, 5 to 6; United Mexican, 5 to 5 1/2; Victoria, 1/2 to 3/4; Western Andes, 5 1/2 to 5 3/4.

The Market for Mine Shares on the Stock Exchange has not maintained the improvement noticed last week. This may be, to some extent, due to the settlement with which the dealers have been occupied, but is chiefly attributable to the rapid succession of exposures of fraudulent trustees and dishonest secretaries. It was remarked a fortnight since that only one mining secretary was absent, and, thus far, there has been no addition to the number. With regard to Granville Sharp, the shareholders in the concerns which he has victimised are even more to blame than he, for their businesses appear to have been most loosely conducted, and the now missing secretary was given an unlimited control of the funds, whenever there happened to be any. That mining secretaries are so seldom defaulters says much for their inherent honesty as a class, for it is but too well known that the secretary of a mine who does not deal in its shares to an extent to ensure their being quoted at a high price in the market is very quickly superseded. The shareholders look for profit from gambling in shares rather than from working the mines, and tacitly encourage their officers to gamble for and with them, the officers naturally stealing when their luck in the market is so bad as to exhaust their own resources. Mining, honourably conducted and handled as a commercial industry, yields enormous profit; but, when companies are carried on merely for speculating in shares to suit timid shareholders, the mines suffer from neglect, and are consequently unprofitable, and mining generally is loudly condemned by holders of mine shares who have never interested themselves in mining, nor given the enterprise a trial. In the result the reputation of sound and valuable properties suffers, and the shareholders lose their money. The Llangelynin Company, whose prospectus was published last week, is understood to have been a complete success, so far as the placing of shares is concerned, and they are already getting to work at the mines. A telegram from Manchester states that "fine samples of copper, blende, and lead have arrived at Manchester today (Friday) from the new discovery at Llangelynin. The vein is 9 in. wide, and continually improving; they are also raising graphite and graphitic clay."

Our usual telegram from Cornwall this evening says:—The Cornish Mine Share Market during the week has been quiet, but prices have been fairly well maintained. Dolcoath changed hands at 64; Carn Brea, 4 1/2; Cook's Kitchen, 18; East Pool, 39 1/2; Mellanear, 3; South Condorow, 8 1/2; South Crofty, 5; South Frances, 8 1/2; West Basset, 4; Tincroft, 6 1/2; West Kitty, 14 1/2; West Seton, 8 1/2; West Tolgus, 9; West Frances, 4 1/2. The sensation of the week has been the defalcations of Mr. Granville Sharp, secretary at Wheal Jane, an incident likely to hasten reform in auditing Cornish mine accounts. Mr. T. S. Bolitho recently said the present system is a farce. At Pedn-an-drea account, on Thursday, there was a loss of 1350s. shown, and a call of 4s. 6d. made. At West Seton, held the same day, Bolitho's representatives insisted on a balance-sheet showing every item of liability, and no credits for anything not actually sold. The result was a debit balance of 10,000s. Adventurers generally approved of the course, and a call of 2s. per share was made. Herodsfoot shareholders agreed to a call of 7s. 6d.

Some interesting American mining news is given by a reliable New York firm, over the signature "Argus," in the Original Correspondence columns of to-day's Journal. Arrangements are pending for continuing the letter weekly or fortnightly, and as every care will be taken that the communications shall faithfully represent the questions involved it is hoped that the letters will prove an assistance and guide to British capitalists connecting themselves with American mining enterprise.

Devon Great Consols, 2 1/2 to 3; according to the agent's report this week, the lode in Watson's shaft, sinking below the 100 ft. level, is yielding good copper ore and mundie, and is promising for a further improvement. The shaft is now down 7 fms. below the above level.

Devon Great United, 2 1/2 to 3; the 120 fm. east is being driven by the side of the lode, and in the west end the lode is producing 4 tons of mineral per fathom. The driving of the 104 fm west has been resumed, and is already producing good saving work for copper ore.

Drakewalls, 1/2 to 3/4; the agents report that the various operations have been pushed forward, and it is expected the produce will be over 10 tons of black tin for the four weeks' working.

Kit Hill Consols, 1/2 to 3/4; the ground in the Tunnel level has slightly improved during the past week, the drive being 13 ft.

South Devon United, 2 1/2 to 3; the report from the mine this week shows that the lode in sinking the shaft below the 110 is 6 ft. wide, and still continues to look well, being worth 20s. per fathom, and the 70 fm. level also shows prospects of an early discovery in driving westward at the Wheal Emma portion of the property.

Richmond, 5 to 6 1/2; the week's run was \$17,000 from 314 tons of ore with one furnace. During the week the refinery produced doré bars to the value of \$20,000. The superintendent's report upon the present condition and extension of the prospecting, deadwork, &c., for the week ended Oct. 1 states that the 1050 west drift from rise from intermediate drift has been run 19 ft. Total 39 ft. In red limestone. The 1050 winze from west drift on fissure has been sunk 29 ft. Total 29 ft. Stopped on account of water.

Ruby and Dunderberg, 1 1/2 to 1 3/4; the opening out of the Home Ticket Mine, according to the weekly report, appears to be progressing well, and the ore is being followed down, the incline below the 150 ft. level having been sunk 65 ft., from the bottom of which a drift had just been commenced to meet the ore body on this level. At the Lord Byron it was considered that the tunnel had been advanced nearly far enough to commence cross-cutting to come under the old surface workings, but a survey was about to be made to calculate the exact place to commence the cross-cut.

California Gold, 13-16ths to 15-16ths; the mill run this week was 438 tons, yield, 660s.; smelting ore sales, 360s.; total, 1020s. The shaft is now down 1470 ft., and prospects there are reported to be altogether of a most encouraging character, the yield of ore being



7 tons per cubic fathom. The eastern 1400 ft. level and stopes together are yielding about 12 tons of ore to the cubic fathom. A new rise is being put up in this level at 150 ft. from shaft for the purpose of blocking out stoping ground in the rich body of ore recently discovered.

Colorado United, 2 to 2½; the reports from the mine show considerable improvement in the output, the clean minerals sent to the buyers amounting to over 30 tons. The 13th level east is in a fine body of ore of good quality. The Fenton lode, which is being driven upon to form a junction with the Terrible is 4 ft. wide, with a good seam of rich mineral on the hanging-wall. It is understood that "the recent report upon the mine, made by Mr. Reuben Rickard, gives such a favourable account of the valuable course of ore traversing the property, and its uniform value for the last five years, that the directors have been induced to take such prompt and immediate steps for the benefit of shareholders as will, when completed, without doubt be most satisfactory to them."

Kohinoor and Donaldson, 3 to 4; workmen are reported to be engaged in framing stations for the Champion tram, and the tributaries at both the Donaldson and Champion are said to be making a satisfactory output.

In Lead Mine Shares there has been an almost utter absence of business, and the few transactions which have taken place have been at a decline. Vans are quoted 4½ to 4¾, and the Great Laxey have declined to 13, 14. The price of lead continues without improvement.

Tankerville Great Consols, 4 to 5; the agent's report this week shows that the new shaft at Pennerley is down 12 fms. below the 80, and is worth 3 tons of lead ore per fathom, and the winze below the level is in a lode 6 ft. wide, worth 4 tons of lead ore per fathom. Watson's engine-shaft is down 84 fms. below the 232. The vigorous pushing down of this shaft night and day is considered of the utmost importance, in order to get at the junction of lode to which the shareholders' attention has been frequently called, and it is urged that this cannot be done unless those shareholders who have not taken up their 10 per cent. preference shares do so.

Roman Gravel, 6½ to 7; the 110 south is worth 3½ tons of lead ore per fathom. The 95 south is worth 4½ tons per fathom, and the 80 south 3½ tons per fathom. Other parts of the mine continue to look equally as well as at the last general meeting.

Leadhills, 2½ to 2¾; the various points of operation at the mines continue to look well, and progress is being made with the improvements at surface.

The liquidators of Overend Gurney and Co. (Limited) are about to make a further return to the shareholders of 10s. per share.

Notice is given that the thirtieth annual dividend of 6 per cent. per annum on the Norwegian Trunk Railway Preference stock will be paid on and after Oct. 29 at the office of the London agents, Messrs. A. and W. Ricardo, Angel-court.

Notice is given that Coupon No. 2 of the Royal Swedish Railway Company's Consolidated Obligations, due on Nov. 1, will be received for payment on and after Oct. 23, at the offices of the company in London.

It is notified that the Debentures of the Recife and San Francisco (Pernambuco) Railway Company (Limited), falling due April 30, 1884, will be paid off on that date, when all interest thereon will cease, unless the holders signify their intention to renew them on or before Nov. 30 next.

The Commercial Bank of Alexandria directors in their report to be presented at the annual meeting on Wednesday, submit balance-sheet with profit and loss account for the year ended Aug. 31. After providing for all expenses including income tax, and making provision for bad debts, the amount of profit for the past year is 16,231.13s. including a balance of 1203. 13s. 3d. brought forward from last account. Deducting 1687. 4s. 8d. for rebate of interest on bills not matured, and 5000. for the interim dividend paid on May 1 the directors propose to pass to the credit of suspense account against doubtful debts 3000.; to pay a dividend of 1s. 6d. per share 600 L., making with the interim dividend 5 per cent. per annum, and to carry forward to new account 10657. 8s. 4d. The dividend will be payable on Nov. 14.

At the Stock and Share Auction and Advance Company's sale on Thursday the prices obtained among others were—United Horse Shoe and Nail Preference Shares, 11s. 3d.; Suburban Land and Cottage, par; Imperial Union Accident Assurance 1s. 10s. 10s. paid, 1s. 3d.; National Standard Land, Mortgage, and Investment 10s. 10s. 10s. paid, 1s. 3d.; London Necropolis and National Mausoleum 10s. 10s. 10s. paid, 1s. 3d.; Dingley Dail Estates and Gold Mine, 10s.; Patent Invert Sugar, 13s. 15s.; Hicombe and Co., Sack Contractors, 25s.

Mr. Felix F. Wilson, of Finsbury-circus, has been appointed secretary of Herodfoot Mine in place of Granville Sharp, absconded. The books, &c., have been removed to Mr. Wilson's office. All underground operations at the mine are to be suspended pending a thorough inspection of the mine.

**GAS SHARES.**—The principal business in these shares, according to this evening's report of Messrs. W. L. Wynn and Co., of the Stock Exchange and Finch-lane, has been—Bomba (Limited), 6¼ to 6½; Bahia (Limited), 25; British, 4½ to 4¾; Buenos Ayres New (Limited), 10½ to 11; ditto, 6 per cent. Debentures, 99 to 100½; Commercial Consolidated, 25½ to 26 1/2 ex div.; ditto, New Stock, 18 1/2 ex div.; Continental Union (Limited), Original, 30½ to 31; ditto, 1893 and 72, 21¼ to 22¼; European, New, 19½; ditto, New, 9½; Gas Light and Coke, A, Ordinary, 199 to 200½; ditto, C, 10 per cent. Pref., 224; ditto, I, 10 per cent. Pref., 216 to 217½; ditto, H, 7 per cent. Max., 144; ditto, 6 per cent. Debenture Stock, 149½; Monte Video (Limited), 15½ to 16; Ottomian (Limited), 4½; Oriental (Limited), 7½ to 8; ditto, New, 6½; Para (Limited), 5½; Imperial Continental, 23½ to 23¾; Rio Janeiro, 24½ to 25; South Metropolitan, A, 27½ to 27¾; ditto, B, 231 to 235½. Gas stocks little changed. London companies firm, but Imperial Continental easier.

**INSURANCE SHARES** have, according to this evening's report of Messrs. W. L. Wynn and Co., of the Stock Exchange and Finch-lane, been dealt in as follows: City of London Marine Insurance Corporation (Limited), 15 to 16; City of London Fire, 15 to 16; Commercial Union, 17½ to 18½; Fire Insurance Association (Limited), 15 to 16; Guardian Fire and Life, 23½; Indemnity Marine, 14½ to 15½; Law Fire, 15½; Law Life, 113½; Lion Life (Limited), 15; London, 53; Liverpool and London (Globe) 1s. 10s. 10s. paid, 1s. 3d.; Ocean Marine, 5 to 5½; Rock Life, 8½; Standard Fire Office (Limited), 15; Thames and Mersey Marine (Limited), 10½; Universal Marine (Limited), 6½; Marine Insurance steady; the new fire companies very flat.

**TRAMWAYS.**—The closing prices of this evening, as quoted by Mr. W. Annett, of Tokenhouse-yard, are given in tabular form in the last page of the Journal.

**RAILWAY AND GENERAL MARKETS.**—Referring to the course of business done to-day during official hours (11 to 3) Mr. Ferdinand R. Kirk Birch-lane, writes:—Opening: Grand Trunks are not very buoyant, although the meeting yesterday passed off satisfactorily. The Ordinary are 19 to 19½, and the Thirds 49½ to 49¾, or more, the same as last night. Unified are 70, being a recovery of ½. A slight reaction is apparent in American shares. Erie are 31½ to 31¾, and Lake Shore 103 to 103½. Peruvian Bonds are again strong at 12½ to 13, and 17½ to 18, though to ordinary minds the return of the native Government to power seems far from a benefit for the bondholders. Bratsberg, 2½ to 2¾; Chontales, 4s. to 6s.; Orita, 10s. to 12s. 6d.; Californian Gold, 16s. 3d. to 18s. 9d.; Eberhardt, ¼ to ½; Nouveau Monde, 4s. to 6s.; Potosi, 3s. to 5s.; East Wheel Rose, ½ to ¾; Old Shepherd, 11s. to 13s.; Treavean, 6s. to 8s.; Mounts Bay, 3s. to 5s.; Home Mines Trust, 5s. to 11s.; South Caradon, 12s. to 14s.; Prince of Wales, 5s. to 10s.—Closing: The markets are rather neglected owing to the pressure of the settlement. Mexican Railway Ordinary are now nearly 2½ down; Peruvians have relapsed from ¼ to ½. Erie shares and Atlantic Firsts have fallen ½.

**GOLD AND SILVER.**—Messrs. FIDLEY and ABELL (Oct. 25) write:—Gold has been in demand since our last, and withdrawals from the bank have taken place to the extent of 7,000l. The orders have been for India, Buenos Ayres, and America, and it is not improbable that recourse will again be had to the Bank, ere long, for the States. The receipts during the week have been 58,800l. from Australia; 6500l. from the Cape; 59,100l. The Handel has taken 100,000l. to Buenos Ayres, and the P. and O. steamer 25,000l. to India. Spanish orders for silver having been executed, the price of bars has slightly declined, the demand for the East not being very active at present. The nearest quotation we can give to-day is 50½d. per ounce standard. The imports since our last comprise 62,750l. from the River Plate; 24,000l. from the Pacific; 25,100l. from New York to 111,850l. The Para has taken 12,890l. to the West Indies, and the P. and O. steamer 81,000l. to India.

**ARIZONA COPPER.**—The report prepared for presentation to the shareholders states that the difficulty which has been experienced in carrying on the finance of the company is attributable solely to two causes—the restriction of the capital from 800,000l. to 750,000l., and the failure of the expectation that the bonds of the Clifton Railroad could be readily floated as separate marketable securities if this company provided 100,000l. to defray the balance of the cost of the line. Neither of these causes affects the real value of the company's property, or infers any radical defect in the scheme on which the company was based; if the property be worth what was anticipated, the practical reduction of the capital by 50,000l. implies no loss to the shareholders, and unless the 100,000l. originally proposed to be expended on the railroad was to be regarded as practically lost, it follows that the 186,792l. which was originally contemplated should take precedence of that sum as a debt guaranteed by this company, must represent equivalent value to the shareholders if the railroad is to become ultimately the unencumbered property of the company. In providing, therefore, for these two items, which represent together 246,792l., by temporary obligations of a different character from those contemplated when the company was formed, the shareholders would undertake no new liability, they would only alter the nature of the obligation for liabilities contemplated and undertaken at the formation of the company. The directors are fully aware that criticism may be made on some of the minor items of the above statement; but these items are of no real moment at this juncture. The admitted difficulties attending the finance of the company have naturally occasioned a considerable amount of disappointment and distrust on the part of the shareholders. The directors do not desire to minimise these difficulties, but fully explain the exact position of the concern. Rapid progress is being made with the new works, and it is expected that they

will be finished and in operation in January. In the meantime, the mining proceeds, and a large reserve of ore will be accumulated for future use. Starting, therefore, with January, 1884, it may be anticipated that the works will then be in full operation, and from that date the revenue of the company may be stated thus:—Revenue from copper, as above stated, 120,000l.; revenue from stores (say), 10,000l.; revenue from railroad (say), 15,000l.;—145,000l.; deduct expenses at home (say), 10,000l.; interest on 300,000l. of debentures, 30,000l.; provision for bonus on redemption of debentures, 6000l.—48,000l., which leaves 100,000l. for sinking fund and dividend on 750,000l. of capital.

**NEDERES.**—This extensive property, with its rich copper mines already provided with a large and efficient plant of machinery, and under the successful Bratsberg management, is confidently expected to occupy a very prominent position shortly.

**BRATSBERG.**—The following satisfactory information has been received from the managers, under date Oct. 19:—"We have sent you to-day the following telegram:—'Turbine and air-compressor started yesterday; a perfect success in all respects.' Everything went without a hitch, full speed and pressure (63 lbs. to the inch) being attained, and the bearings did not even get warm. The turbine is, to say the least, a masterpiece of its kind. We worked the compressor to a speed of 180 feet per minute, equal to 96 revolutions of the turbine, with only three-fourths of the full power of the latter, leaving a margin of 50-horse power to be utilised for any other purpose. The perpendicular fall of water through the pipes is about 140 ft., and it is worthy of note that they hardly leaked a drop of water under the enormous pressure. It is not too much to say that you have here one of the finest air-compressing engines that can be found in any part of the world." The cargo of copper ore lately received by the Mary Owen has realised about 13l. per ton.

**ISABELLE GOLD AND SILVER.**—The ordinary annual general meeting of shareholders was held at the offices of the company on Oct. 17 (Right Hon. Earl Poulett in the chair). The Chairman moved that the directors' report and the balance-sheet be read and adopted. Mr. J. O. Surtees seconded the motion, which was put to the meeting and carried unanimously. This concluded the business of the ordinary meeting. The meeting was then made special and the resolutions, of which previous notice had been given to the shareholders, were proposed and carried unanimously. A cordial vote of thanks to the Chairman and directors terminated the proceedings.

**D'ERESBY MOUNTAIN.**—A new shaft has been commenced from surface through the old men's workings, which will come down in the centre of the present stopes in No. 6 level, and be continued in a fine course of ore. The completion of this work, which is expected to take four months, will it be believed at once place the mine in a profitable position even at the present low price of lead.

**THE VALUABLE MINES AND EXTENSIVE PLANT OF MACHINERY ADJOINING MR. BEAUMONT'S FAMOUS MINING PROPERTY IN ROOKHOPE.**—These were referred to last week as being advertised in the Mining Journal for sale. It is understood there is likely to be considerable competition for them, the mines having already made large returns. Oct. 30 is the last day for tenders to be sent in.

**WEST SETON.**—At the meeting on Thursday (Mr. T. Pryor in the chair) the accounts were thoroughly overhauled, and it was shown that the aggregate debit balance is now 7693l. The Chairman remarked that the shareholders might be somewhat startled at first sight; but when they came to consider the statement, they would arrive at the conclusion that in charging up every known liability to the end of September, and not crediting anything which they had adopted the best course. The labour costs had been charged up as close as they could bring them, and the merchants' bills were also charged to the end of September. These bills were exceptionally heavy, as they included not only a large consumption of coal, but also the cost of the new skip-rail for drawing up the men, the repairs of the boilers, and also a new lift in the bottom of the mine. These items represented a large amount. The credits, also, only showed what had actually been sold and delivered. Last week 50 tons of copper were sampled, and the price of a greater part of it had been paid, and nothing of this had been credited to their account. They had always been in the habit of crediting arsenic on account, and the tin account had been treated in the same way, so that nothing whatever was credited but what was actually sold and delivered. These facts showed the figures apparently in a rather gloomy aspect, but he was satisfied that the mine and all connected with it would stand better by adopting the course referred to. The actual loss on the four months' working was 1400l., but this would not have been so heavy had not several causes occurred in the working of the mine. A call of 4l. per share was proposed, but it was ultimately determined to make it 2l. per share, payable in two instalments, on Nov. 24 and Jan. 19 respectively.

**PEDNAR-DREA.**—At the meeting on Thursday (Mr. R. S. Teague in the chair) the accounts showed a loss on the four months' working of 1348l. 16s. 6d. A call of 4s. 6d. per share was made. Mr. J. Olford asked if there were no other ends worth driving besides the 100 west. Capt. A. J. James replied that at present he did not consider it advisable to drive other ends till they met with the run of tin ground in the 100 west; 100 east suspended. Mr. Husband asked what had been the value of the 100 end between the present part and the rise. Capt. A. J. James said it varied materially. In reply to Mr. Abbott, Capt. James said they were now making a profit out of the ground worked on tribute. The stuff stamped averaged about 56 lbs. to the ton. Mr. Husband, in proposing a vote of thanks to the committee (Capt. A. J. James, J. Bray, and D. W. Bay) for their valuable services during the past four months, and with a request that they would continue their services for another four months.

**WHEEL CREBOR.**—The meeting will be held on Nov. 15, and as the accounts for the four preceding months will show a profit of about 1500l., a dividend of 2s. 6d. per share will be declared, leaving a surplus balance of upwards of 1100l. This dividend is equal to 15 per cent. per annum. This week's report on the mine, which appears in another column, is the best that has been received for many months past. The lode being driven on at the 132 east is yielding 16 tons of good copper ore per fathom. The winze sinking below the 132 east is yielding 8 tons per fm., and the 144 end will very shortly be driven under this winze, where the lode is expected to be found equally productive as the winze. The 48 east is yielding 2 tons of ore and 3 tons of mungie per fathom, and the driveage is evidently skimming the top of a new bunch of ore, at as this level is far in advance of any other of the eastern levels, the importance of this point cannot be overrated. The aggregate value of the ends, winze, and stopes for copper ore is 48 tons per fathom, and for mungie 17 tons per fathom. Crebor is now considered to be the best copper mine in England.

**GLASGOW CARADON.**—At the meeting in Glasgow two special resolutions were agreed to. The first of these proposed to increase the capital of the company to the extent of 4000l., divided into 4000 shares of 1l. each, the shares to be preferable, both as regards capital and dividends; the dividends cumulative, and at the rate of 7 per cent. on the paid-up amount of the shares, it being also provided that these shares shall, in the option of the directors, be redeemable at par, with a bonus of 5 per cent. within five years of the date of issue. The second resolution gave the directors power to dispose of the proportion of the new shares created in 1883 in such manner as would prove most beneficial to the company.

**RAILWAYS IN NEW SOUTH WALES.**—The material progress of the Colony is not inaptly represented by the rapidly increasing mileage of railway. The total number of miles of railway in New South Wales at the close of 1882 was 1315, against 995 miles during the previous year. There are also 504 miles in course of construction, and the numerous routes for other lines are being surveyed. This is no mean achievement for a country containing less than a million inhabitants.

**A LOST CITY OF MEXICO.**—Ancient ruins, which surpass anything of the kind yet discovered on the American Continent, have been found in Sonora, about 4 leagues south-east of Magdalena, Mexico. There is one pyramid which has a base of 4350 ft., and rises to a height of 750 ft. It has a winding roadway from the bottom leading by an easy grade to the top, wide enough for carriages to pass over, which is many miles in length. The outer walls of the roadway are laid in solid masonry from huge blocks of granite in rubble, and the circles are as uniform and the grade as regular as could be made at this date by the best engineers. To the east of the pyramid a short distance is a small mountain about the same size and rising to about the same height. On the sides of this mountain a people of an unknown age have cut hundreds upon hundreds of rooms, from 5 by 10 feet to 16 or 18 feet square. These rooms are cut out of solid stone, and so even and true are the walls, floors, and ceiling, so plump and level, as to defy variation. There are no windows to the rooms, and but one entrance, which is always from the top. The rooms are 8 ft. high from floor to ceiling. On the walls are numerous hieroglyphics and representations of human forms, with feet and hands of human beings cut in the stone in different places. Stone implements of every description are to be found in great numbers in and about the rooms. It is, of course, a matter of much speculation as to who the inhabitants were, and in what age they lived. Some say they were the ancestors of the

Mayos, a race of Indians who still inhabit Southern Sonora, who have blue eyes, fair skin, and light hair, and are said to be a moral, industrious, and a frugal race of people, who have a written language and know something of mathematics.

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100 Ontonates, 5s. 20 New Emma, 1 11s. 3 25 Tresavean, 7s.  
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20 East Blue Hills, 4s. 20 Orita, fully paid, 11s. 6 50 West Crebor, 4s. 5d.  
25 East Caradon, 6s. 3d. 10 Panulillo, 45 5s. 5 West Killy, 4 1/4.  
40 East Rose, 11s. 150 Fort Phillip, 3s. 25 West Phoenix,  
20 Frontino, 21 11s. 3d. 40 Prince of Wales, 40 West Caradon, 7s.  
20 Gunnislake (Clitters), 75 Potosi, 4s. 6d. 10 Wheel Crebor, 22 12 6  
1 15s. 9d. 40 Parys Corpora., 2s. 9d. 10 Western Andes Gold,  
20 Great Holway, 75 Pestarena, 3s. 3d. 45 1/2.  
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Callao Bis, 7s. 3d. 10s. 6d. Sortridge, 2s.  
Chontales, 4s. 8d. 10s. 6d. So. Caradon, 1s. 9m.  
Colombian Hyd., 6s. 3 Kilbreth, 21 9s. 3d. South Darren, 10s.  
Devon Con., 22 12s. 6d. Mona Consola, 10s. S. Devon Un., 10s. 6  
Devon Friend., 3s. Mounts Bay, 5s. Tresavean, 7s.  
Drakewalls, 4s. 6d. New Emma, 1 11s 3 Victoria Gold, 12s. 6d.  
East Blue Hills, 4s. 6d. Nouveau Monde, 5s. 3 West Caradon, 7s.  
East Caradon, 7s. 6d. Old Shepherds, 11s. 6 West Crebor, 4s. 5d.  
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## Notices to Correspondents.

**INSTITUTIONS FOR THE IMPROVEMENT AND STUDY OF MINING IN THE UNITED KINGDOM.**—Several correspondents having enquired for a list of the above, secretaries or members are requested to forward to the Editor names of the institutions to which they belong, and brief details, that a list may be published in the *Mining Journal*. Particulars should be sent before Oct. 31.

**SHARE PURCHASES.**—"S. G. P." (Ilfracombe).—As we never deal in shares nor recommend brokers—it would be unfair considering the number of brokers' and dealers' advertisements on the front page—we can give no opinion in the matter. You must understand, however, that it is not always possible to obtain delivery of shares at the price at which they are advertised. As to the assertion that the mines are worthless, it might be replied that they undoubtedly contain immense quantities of rich ore, and modern engineering knowledge ought to enable the adventurers to obtain it at a profit.

**ADDRESS.**—"J. F. B." (St. Anne's-on-the-Sea).—We have never known any other address for the gentleman than that which you give. It was stated a few months since that he was retiring from business, and beyond the fact that for about 30 years he has always paid his accounts for advertisements most punctually, we know nothing of his financial position. Our business being strictly confined to the publication of the *Journal*, we could not undertake the detective duty you suggest. A letter addressed to the care of his successor, at his former address, would no doubt receive attention.

**CORAL, SULPHUR MUNDIC, SPATHOSE IRON ORE.**—"W. D. K." (Camelford).—We have received no reply as to your enquiry for price of coral ore. Sulphur mundic, if over 50 per cent. sulphur, is readily saleable; probably Liverpool would be the best place to send it to. Spathose iron ore of good quality can be sold in most iron manufacturing districts. The price would of course depend upon its purity. It would have to be quoted free at the works where it is to be used.

**COMPETITIVE TRIAL OF PULVERISERS.**—You have made a slight error in our letter published in last week's *Journal*. It should read—"As the results are printed we appear to have ground 7 lbs. of tin to the ton of coal less than the first, whereas if the amount of one hour's coal had been taken out we should have stood nearly 2 qrs. (not 2 ozs., as printed) of tin to the ton of coal ahead of him; and seeing the pooriness of the stuff ground, this is a substantial difference. In the face of all this the committee placed another machine first, and ours second."—F. DINGEY and SON: *Truro Foundry*.

**VALUATION OF ORE.**—"F. A. S." (City).—It is mechanically and mathematically impossible that a square fathom can be the basis of valuation—square measures can only measure superficies. A cubic fathom is evidently the unit intended, but it would be unjust to suppose that American mathematicians consider squares and cubes identical. The expression "worth—tons per fathom square" would be admissible, but not desirable.

**INDIAN AND SANDHURST GOLD COMPANY.**—Will some correspondent kindly furnish me through the next *Journal* with the name and address of the official liquidator of the above company? I am an original shareholder in the company, but have not had a line from anyone since the last quarter's dividend was paid. Is this right and legal in the officials?—R. E. T. M.

**WIRAL BENNY.**—As I cannot find the name of this mine in the official statistics, and as it is merely stated to be in Cornwall in the *Mining Journal* Share-list, will some correspondent kindly state through the *Journal* what district the mine is in, how many men are employed, how much mineral, and of what kind has been raised and sold during the past six months, and how many shares have been issued to the public? I should also be doubly gratified to learn where a market for shares could be found?—VERITAS.

**Received.**—"T. J. D." (New York: Replied by post—"R. and K." (Amsterdam). The mineral statistics for 1882 are not yet ready, but are promised in a week or a fortnight. They are this year being prepared at the Home Office, and will be issued as an ordinary Blue-book—"Enquirer" (Home Mines Trust): The offices are at 3, Old Jewry. The amount paid and price are published in the *Journal* every week—"W. H. F." (Potosi): Your letter was evidently written before the issue of notice of meeting. Everything depends upon the proper interpretation of the adverse telegram—"R. M." (Keld): The fluctuation is no doubt due to market operations—"V. W. and Co." (Fishguard): It does not always follow that because shares are advertised at a price delivery can be obtained at the price asked—"W. M. O." (Santa Cruz): The letter which you sent from North Carolina for publication is withdrawn, as you desire; but we do not, under any circumstances, return manuscripts.

## THE MINING JOURNAL,

### Railway and Commercial Gazette.

LONDON, OCTOBER 27, 1883.

## COLLIERY EXPLOSIONS.

During the last few days two serious explosions have taken place in coal mines, in which a number of valuable lives have been sacrificed, and at the same time causing a heavy loss to the owners. A great deal of late has been said by those now agitating for miners' wages being advanced up to the large profits made by colliery owners. Whilst these fabulous statements have been sown broadcast for the purpose of making the workmen dissatisfied with their position nothing whatever has been said as regards the risks attending the capitalist who invests his money in coal mines. In collieries every known precaution may be taken to prevent an accident from falls or explosions, but despite all these they will and do take place. At the Wharnclyffe Carlton Colliery, near Barnsley, where every scientific appliance, and the best mechanical power known have been brought into requisition, there was an explosion early on Friday morning, resulting in a loss of 20 lives. No colliery in England is better equipped for working and ensuring the safety of the men employed than the Wharnclyffe Carlton, whilst it has a most excellent staff, under the control of Mr. J. MITCHELL, yet with all these advantages there was an explosion during the night shift, with its attendant loss of life, such as we have described. Considerable discussion has taken place, even amongst mining engineers, as to the probable cause of the explosion; but one would have thought that this was unnecessary, seeing that during the night shift blasting was carried on. The coal was certainly not brought down by blasting, but in driving through stone powder had to be used, and it was this, there is no doubt, that led to the catastrophe. Fortunately during the night shift only some 25 persons went down the pit, otherwise the loss of life would, of course, have been much heavier. Up to Monday morning it was not expected that there was any fire in the pit, for the ventilation was kept up well by means of a powerful Guibal fan capable of giving from 200,000 to 250,000 cubic feet of air per minute. However, whilst the coroner's enquiry was proceeding, and as we were conversing with Mr. WARDELL, the Government Inspector of Mines, as to the probability of the bodies of the three men in the mine being recovered that night another explosion took place. This was a great surprise indeed, and a rush was at once made to the drawing shaft, as it was known several men were exploring below. There were plenty of mining managers and workmen on the spot who unhesitatingly volunteered to go down. In a very short time nearly 40 persons were traversing the dark recesses of the mines, travelling a distance of considerably more than a mile. Their aid was in the highest degree necessary, for several of the explorers had been severely burnt by the explosion, and at least two of these were brought out with considerable difficulty.

This is a new and unexpected phase, for all admitted that there must be a standing fire more than a mile from the bottom of the shaft, although a contrary opinion previously prevailed. A consultation was then held amongst the officials, mining engineers, colliery managers, and the two Government Inspectors, when it was decided that only one course was open for extinguishing the fire, and that was to swamp it out by means of water, or in other words, to flood that part of the mine where the fire was known to exist. Several views were put forward as to where the water was to be obtained from, but the opinion prevailed that by taking out a segment of the tubing in the shaft there would be a plentiful supply without any difficulty. It was also suggested that by means of flexible pipes the water could be taken to the vicinity of the fire and poured on to it. However, the flooding of that part of the mine where the fire is has become a necessity, and whilst it will throw some hundreds of men out of work, it will be a most costly matter for the Messrs. CRAIK, who, we are informed, are not included in that enviable category of fortunate colliery owners who are said to have made immense profits during the present year.

The Leycey Colliery, in North Staffordshire, was again the scene of another explosion, involving a loss of six lives. This time it was owing to a fire in the goaf, which had been going on for some time, but it was allowed to continue until the workmen refused to go down, so apparent was the danger. However, men from some of the adjoining pits were induced to go down the pit on Sunday for the purpose of building off the main roads from the seat of the fire. Work was carried on until about eight o'clock in the evening, when

there was a slight explosion, which did not appear to do much damage. Shortly afterwards, however, the air no doubt reaching the gas, a second and, as stated, a terrific explosion took place, killing Mr. KIRKWOOD, the mining engineer; Mr. LEEK, the underviewer; THOMAS WEBB, a deputy; and three other men. There was here, as at Wharnclyffe Carlton, every indication that a strong fire was raging in the workings. Nothing therefore remained to be done but to smother the fire, and on Monday the filling up of the upcast shaft was begun. The bodies of the six men killed have not been recovered, and some time will elapse before the pit will be in a condition to allow of a search being made for them. In this case, however, it is evident that not sufficient attention was paid in the first instance to the fire which was known to exist in the "goaf," its importance, as usual, not having been recognised. There is here another instance of that over confidence that has resulted in so many fatal disasters. A fire, be it ever so small, in a mine is always dangerous, but to allow it to increase in volume is something worse than a blunder.

At the enquiries in connection with both the Wharnclyffe Carlton and the Leycey disasters the Home Office will be represented, and we may expect that all the particulars will be brought out with respect to them, when we shall probably have something more to say on a subject which is alike of importance to mineowners and miners.

## ROYAL GEOLOGICAL SOCIETY OF CORNWALL.

The members of the Royal Geological Society of Cornwall may well be congratulated upon the success of their seventieth annual meeting, which has just been held, for the society shows increasing vitality, and matters of paramount importance for giving Cornishmen such a knowledge of the science which bears most directly upon the principal industry of the county continue to be brought forward at its meetings. Referring to a subject which at the present time is attracting much attention, the President—Mr. Leonard H. Courtney, M.P., Financial Secretary to the Treasury—remarked that if we put together the investigations and discoveries of geologists, we see that even now the earth was possessed of a subterranean force working outward, in some places constantly, in others intermittently, with very slight periods of rest. The dead earth was still living. What was supposed to be immovable was in a state of flux; what was supposed to be rigid and permanent was liable to perpetual changes. But what he had stated was not, of course, in its application confined to mere earthquakes or volcanoes. We had even in our own country evidence of internal heat in hot springs, to which people resorted for purposes of health, and which had been known for thousands of years—springs which were remarkable as being so far distant from the centres of volcanic energy, and which yet showed that under the surface there might be something of the same volcanic action perpetually going on elsewhere. If they inspected a series of physico-geological maps they would see the world was now enringed by volcanic action; while, if passing into remote antiquity they were to see the evidences of the forces that had existed and had manifested themselves, they would find that there was scarcely a part of the world which was not studded over with the signs of past eruptions, all of which could be recognised by the skilled, and, indeed, by the unskilled geologist. The investigation of the causes of these phenomena would lead into very considerable labour, and he was happy there at all events to be somewhat on the same platform with the geologist proper, because he believed geologists themselves were unable to give any complete explanation of the causes of the phenomena in question.

But there was one thing, continued Mr. Courtney, which, apparently, they must dismiss altogether—the notion which prevailed at one time that, underlying a comparatively thin crust of the earth, there was found nothing but a great mass of molten fluid; that the earth itself was a crust surrounding this thin, fluid mass. The suggestion was, at first sight, plausible, because it explained so many of the phenomena of volcanoes, hot water springs, and earthquakes with which we were familiar; but it was demonstrated as a mathematical problem that such could not be—that, even with a rigid shell, the pressure of the movement of the fluid matter within such a thin crust, consequent upon the variation involved in the movement of the earth around the sun, would make it impossible to maintain the equilibrium of the whole. They must, therefore, dismiss that hypothesis for that reason as absolutely convincing and demonstrative. But the other suggestion which now appeared to find favour with geologists—that the earth, although solid, was, at points of extreme tension and pressure, liable to become fluid and hot on the least alteration of the pressure against the thick rind of the earth—seemed to be the best explanation of the different phenomena of movements of the earth and the effects of volcanic action with which we were familiar. But whether we adopted the one cause or the other, we arrived at the same feeling with respect to the earth itself—a feeling passing away from that older one to which he referred at the outset, and recurring to one to which the ancient Greeks gave utterance in their legend in which they explained the tremors of the mountain of Etna—that some huge giant who had been overthrown in a war with the gods had been put into prison below the earth, and his attempts to escape produced the earthquakes, volcanoes, noises, movements, and tremblings of the earth. We had within the globe a giant who was perpetually attempting to break forth, and who did break forth, but at the same time the extraordinary balance of forces which we saw in every part of Nature resulted in an equilibrium which allowed us to pursue our daily work, though we are convinced that there was a perpetual movement of nature around us.

The present financial condition of the society is undoubtedly good, and the reports of the treasurer, curator, and librarian were encouraging. The Science Classes, under the guidance of Messrs. Barnett and Corin, are making good progress. A specimen of Trowlesworthite—a rock believed to be quite new to petrologists—was presented by Mr. R. N. Worth, F.G.S., of Plymouth, who so named it from the place where he found it in August last—Trowlesworth Tor, on the skirts of western Dartmoor. In a note accompanying it Mr. Worth said one loose block, and only one, was found. The Tor is a mass of red granite of varying shades, which had been quarried for ornamental purposes. The block of Trowlesworthite he took to be a fragment of a vein traversing the granite. It resembled Luxulyanite in being mainly composed of tourmaline and felspar, but the difference was even more material—the presence of violet fluor spar. Moreover, the felspar, which is flesh colour in Luxulyanite, in Trowlesworthite is a rich red; and this contrasting with the velvety black of the tourmaline and the deep violet of the fluor spar, makes it a rock of rare and singular beauty. The occurrence of fluor spar in association with granite is not a new discovery. Dr. Boase noted it many years since in the Hensbarrow boss, and it occurs also in china stone. Trowlesworthite is not, however, granite—hardly granitoid by courtesy. The mica, which is one of the invariable components of true granite, is absent altogether, and the quartz is present only in very small quantity.

Mr. Worth also put on record the discovery of a small boss of granitoid rock chiefly felspathic, with needles of schorl just on the verge of the ancient limits of the county of Cornwall, on the eastern side of the Tamar, near King's Tamerton and St. Budeaux. With reference to his note of the discovery of gneiss in the Shovel Rock, in Plymouth Sound, read at the society's meeting in 1880, Mr. Worth wished to state that evidence has since been obtained which negatives that there is any gneiss in any portion of the reef on which the Breakwater Fort is built. The historical evidence of the correct assignment of the specimens to the reef remains, however, unshaken, and a careful examination of the shores of Plymouth sound, while failing to reveal any direct traces of the evidence of granitoid or gneiss rocks *in situ* there, has shown in addition to the "contortions and displacements" of an upheaving force close at hand, just such evidences of metamorphic action as we should expect to find on the hypothesis of the gneissic character of that part of the Shovel Rock. Mr. Worth associated this with the granitoid rocks of King's Tamerton and St. Budeaux, because each seemed to him a link between the granite highlands of Cornwall and Devon and the submarine granitic area of the Channel.

The concluding business of the meeting was the election of the

new officers, and the announcement that Mr. Warrington Smyth, M.A., F.R.S., had consented to resume his old post of President was received with loud applause, and Mr. Warrington Smyth having taken the chair said he cherished most grateful memories of his former presidency, and hoped in the next two years to have opportunities of again meeting the members. Therewith remained many unsolved problems in the geology of Cornwall, and very happy would he be to help any student who, with the aid of the library and museum, would attempt the solution of some of them.

Mr. Leonard Courtney was elected a vice-President; the treasurer, librarian, curator, secretary, and the assistant librarian and curator were re-elected, and Mr. G. J. Smith, Camborne; Rev. J. Tonkin, Mr. M. Magor and Prebendary Hedgeland were elected to fill vacancies on the committee. It was stated, in reply to Mr. T. S. Bolitho, that the Council would during the year consider the question of bringing the various scientific societies in Cornwall into closer relationship, a project the advantage of which cannot be too highly commended to the favourable consideration of all interested in the promotion of science in the county.

## THE FAIR TRADE THEORY, AND THE COBDEN CLUB TESTS.

The lamentably depressed condition of the metal trades, against which our miners have had so long to contend, has led many of them to suggest an immediate return to the old system of Protection, and although it was at once pointed out in the *Mining Journal* that such a retrogression was altogether impracticable, and, even in the interests of the miners themselves, undesirable, it is as well that the arguments of the advocates of the Fair Trade Theory should be thoroughly understood, in order that such of their suggestions as are worthy of consideration should be earnestly supported, quite irrespective of political opinions or of belief or otherwise of the advantages of Free Trade as a principle. The Chairman of the Executive Committee of the National Fair Trade League (Mr. Sampson S. Lloyd) has carefully expounded the principles of the organisation, and points out the fallacies of the opponents of the League theory. Cobden Clubbites, he says, like the original Cobdenites, or earlier advocates of real free trade, based their creed on the maxim, "Take care of the imports and the exports will take care of themselves." Originally, manufactures and products of industry were meant by "exports." In that sense Mr. Cobden declared that every pound's worth of corn imported would produce its corresponding export of a pound's worth of manufactures. But experience has falsified this prophecy; therefore, for lack of actual and present, or "visible" exports, a new term has recently been invented—"invisible exports." By this the present proceeds of capital saved from the earnings of bygone years—i.e., "dead men's profits or wages," are meant. It is admitted, in effect, that imports for present consumption are being paid for by these "dead men's earnings," now existing as foreign property in the hands of capitalists. Fair traders demand, however, as essential to the prosperity of all classes, that imports for present use shall be paid for by "live men's earnings." Live men consume, and need present employment to enable them to do so. This, under the double pressure of unfair competition at home, and of tariffs abroad, they do not now get in proportion to our national purchases.

According to the ridiculous Cobden Clubbite theory, as Mr. Sampson Lloyd points out, the years 1876-82 were twice as prosperous as any of the preceding. Business men will, of course, form their own conclusions. Probably even those not engaged in trade or commerce are aware that these were years of the greatest depression in our national industries. Fairtraders then sum up this theory as to "excess imports" representing national profit, by proving that at the best they mean only profit for the wealthy, not engaged in home industry, but loss (and therefore ruin) to the masses who live by daily labour or production. The argument that the world's indebtedness to England creates the "excess," resolves itself into this—that the many must suffer to benefit the few. Our labourers and producers are the many; but our dealers in foreign securities and investors in foreign labour are the few. Why, in order to enable the latter to realise their income more easily, are the former to be handicapped and undersold even in their home markets? If this be right a paradox arises—"That the richer the few, who are investors in foreign stocks, land, or factories, may be, the poorer our working classes must become if they remain at home." The cry for "State-aided emigration" eloquently illustrates the position. And the larger such "excess imports" and displacement of home products, without corresponding return markets for "labour," the better for some of the rich; but the worse in the long run for all the poor—no matter how cheap things may be.

But the real views of the National Fair Trade League can probably best be ascertained from the concluding portion of its Chairman's third letter, in which he explains that the argument of the Cobden Clubbites is that our excess imports (25 per cent. of the whole or over 60 per cent. of our food) do not come in exchange for products of home industry, but are received as payment for our carrying earnings and profits on foreign investments. But, except in shipbuilding, our artisans and operatives are very slightly interested in shipbuilding, and scarcely at all as foreign investors. They certainly do not procure imported food without payment, and to pay they must work. To them the capitalist who imports food stands in the position of home producer, with this important exception—that whilst the latter, when prosperous, is invariably the best customer to the manufacturer in his own district, the former is mainly a customer to the foreigner from whom he obtains his supplies. What the labourer then needs is the largest return market he can find for his own labour, in exchange for what he buys—whether it be corn or meat, grown at home or imported.

As far as the working classes are concerned, it would, he remarks, seem evident, then, that the best return market they could hope to find would be from the producers of home-grown food. If he who makes two blades of corn grow where only one grew before be a public benefactor, what is to be said of those whose policy has caused land to go out of tillage because of the relative disabilities which render its cultivation commercially unprofitable? But I am not now dealing especially with the home question—on which so much may be said. The need for external supplies of food exists, and must be faced. The working classes who consume must have present work to pay for what they buy, even though our richer classes may receive either the whole or a portion of our "excess imports" in payment of their earnings abroad, by which they wax more wealthy still. Let us examine, then, as though we were private traders taking stock of the several advantages offered us by our various correspondents, where our labour classes can most advantageously expend their wages. In his first letter he showed the progress of our whole world trading for the three septennial periods since 1862—the era of free imports. From figures given then he proved that in the last septennial period—one of great depression—excess imports were double those of previous and more prosperous periods. Let us see, now, he continues, whether our commerce with all parts of the world shows a similar result in this respect. Space forbids my here recapitulating the nature of our trade with each State or with each quarter of the globe, though I may refer, as stated in my last letter to the fact that the United States only buys from us 6s. 10d. in the pound for each 20s. worth of commodities we buy from her. But it is sufficient for my purpose to separate the trading with foreign States from that with our own Empire, and to find that the figures come out thus:—

Foreign.		Imperial.		Excess.		Exchange.	
Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
1862-65 ... 1289	1115	516	372	30	21	15s. 4d.	14s. 5d.
1869-72 ... 1884	1515	535	454	50	12	16s. 3d.	17s. 9d.
1876-82 ... 2108	1348	614	545	109	13	12s. 9d.	17s. 9d.

[The figures represent pounds sterling and millions unless otherwise expressed.—Thus 1.69 must be read 1,690,000,000, and so on. The two columns immediately succeeding the dates show our commerce with foreign States only; the next two show our commerce with our own Empire; the column headed "Excess" represents the averages of excess imports in either case; and the columns "Exchange" show how much in the U.K. the return custom for British labour in exchange for our purchases has been. The responsibility for the figures rests entirely upon Mr. Sampson Lloyd.]

Does not the whole course of trade show then, Mr. Sampson Lloyd asks, that if by a fiscal policy, giving a preferential market here for supplies from our possessions, we were to devote our food custom to



audit" and the like, for checks seem to have troubled him to the least possible extent, but that if any good result is to be got out of his doings at all, it can only be by thorough investigation. Let the adventurers and the mining world know exactly where the fault has been, and what negligence has been contributory to this sorry termination of what seemed a flourishing career.

*Oct. 25.*—Beyond the new phase of the coal trade, as developed in the meeting of the Conciliation Board, referred to further on, there is no new feature of importance this week in that branch of trade. In the pig-iron branch vendors of foreign sorts are not pressing their products on the market, being content to await the gradual improvement in demand which they think the present activity in finished iron warrants them in believing to be not far distant. Thorncliffe pigs are 57s. 6d., and Lincolnshires 60s. Native all-mines are 62s. 6d., and cinder pigs 40s. to 37s. 6d. Hematites are 60s. per ton. The finished ironmakers are nearly all busy, and some hoop and strip, and common bar makers are getting a rise of 5s. on a couple of months ago.

The gathering together of the Coal Trade Wages Board, before Mr. Haden-Corser, barrister, the umpire, which has been eagerly awaited by the coal trade, came off in Wolverhampton on Monday. The men asked the umpire to decree an advance of 1s. per ton in the price of coal, and to advance wages by 4d. per day or stint in the Thick coal seams, and 2d. per day in the Thin seams, thus bringing Thick coal miners' wages to 4s. per day, or "stint." The only argument that they could adduce in favour of the claim was an alleged improvement in trade. To this the masters replied that not only was the allegation illusory, but that their chief support—the iron trade—could not bear the imposition of an advance in coal. Indeed, they contended that they were entitled to a reduction at once of 10 per cent., seeing that the condition of trade during the four months which had passed since the men's wages were increased to 3s. 8d. per stint had not justified the advance. An attempt was made at the meeting to lay the basis of a new sliding-scale, but the two proposals which emanated from the employers had to be abandoned, so great was the dissatisfaction. The umpire remarked that he did not believe he had the power to advance the price of coal, and ultimately the questions of advance and sliding-scale basis were left in his hands. He has promised to issue his award as early as possible.

On Sunday evening an explosion occurred in the Fair Lady Colliery, Lyceet, North Staffordshire, the property of the Madeley Coal and Iron Company. Six men were killed, and several others injured. A fire had existed in the mine for some time, and some 14 men descended the shaft on Sunday for the purpose of "building off" the Bullhurst seam, in which the fire raged. About half-past eight a slight explosion occurred, but the workers continued their operations. In a few minutes afterwards a second explosion occurred, with the result stated. Mr. James Kirkwood, mining engineer, is among the killed. On Monday it was decided to fill up the upcast shaft, and this work was continued all day on Tuesday. The men, under the superintendence of Messrs. Wynne and Sawyer, Government Inspectors, began to fill up the downcast shaft as far as the first cut. It is now certain that some months must elapse before the mine can again be opened and the bodies recovered. It has been ascertained that the deceased leave 24 children, in addition to six widows.

*Oct. 25.*—The last week has been a more than usually eventful one in the Midland field. Meetings of colliery owners, as well as of miners, have been held, whilst there has occurred in a district that has been remarkably free from fires an explosion involving a loss of 20 lives, and the flooding of a considerable portion of the mine owing to the standing fire. The wages question has formed the principal topic of conversation in mining circles, and the decisive stand made by the colliery owners is considered an extinguisher on the unwarranted demands made on behalf of the men. There was a meeting in the first instance at Derby of the owners resident in that county and the adjoining counties of Leicester and Nottingham, when it was decided that there was no ground whatever for the men asking for any advance, and that it should be peremptorily refused. This decision was fully endorsed at the still more important meeting held at Sheffield on Tuesday; so that the men are now left to pursue whatever course they think best; but few believe that with nearly full work all round the result will be a strike, and such a daring proposal is not likely to be made. Trade in Derbyshire is what may be considered fairly good so far as coal mining is concerned.

A large tonnage of house coal continues to be sent to the Metropolis, where merchants hold large stocks and still supply their customers by ordering, so as to meet the requirements of the latter. This is in consequence of the position taken by the miners, who, were they to strike, would find the London merchants prepared for two or three weeks to come. Prices have continued firm, but it is not likely that any advance will be made, just at present at least. Steam coal has gone off tolerably well ; but were it not for the large quantity that is taken for the blast-furnaces, there would be great difficulty indeed in disposing of anything like the quantity that is now raised. Of late rather more has gone to London for contracts for various works, but it cannot be put on to vessels in the Thames owing to the cost of lighterage, whilst the prices at which it has to be supplied leaves a very small margin of profit indeed. Gas coal continues to go off rather freely, as required by the contracts which are entered into in the summer. In small coal there is rather more difficulty in disposing of it, even at a price which leaves no profit whatever. Were coke to be made to the extent of supplying the ironworks, this would absorb a large quantity of the small coal ; but the Derbyshire colliery owners have shown no disposition to enter into the coke trade, although it is considered considerably more profitable than the raising of coal. Considering the depression which appears to prevail in our leading iron-making districts, and the low price which pig realises, Derbyshire makers may be considered tolerably well off. One advantage they have is that a good deal of what they make they are able to use upon the ground, for such foundries at Staveley and Stanton absorb a very large quantity of raw iron. The system of making iron and steel direct by what is known as Bull's process will be in operation before long in Derbyshire, at no great distance from Sheffield, where there should be a market for all that is made if it comes up to anything like what is said of it.

In Sheffield business has become more active, and is not confined to one branch, but may be said to go all round, affecting both the heavy and light departments of both the iron and steel trades. Of late the demands upon makers of both Bessemer and crucible steel have increased, although, as regards the former, there is still but little doing in rails, owing to the very low price at which they are being turned out by the makers having works close to shipping ports. Contracts have been taken as low as 4*l.* 15*s.* per ton, and this price would not suit the Sheffield makers. Still, Bessemer billets have gone off rather freely for some descriptions of cutlery and tools. Crucible castings, both heavy and light, are also in fair request, more especially for corf and other wheels, hammers, picks, and mining tools of all kinds. In the production of cutlery an improvement has also to be noted as regards both table and ordinary pocket knives, the home markets showing to greater advantage. The rolling-mills have continued to run well, armour-plates, of course, being in the greatest request, for the orders for them are heavy. In other kinds of plates, as well as sheets, a steady business is still the rule at the various works. Railway material, exclusive of rails, is in good request, more especially in the shape of tyres, carriage-wheels, springs, and wagons. At several of the foundries in the town and district there is more activity than for some time past, fair orders being in hand for gas and water pipes, tanks, and machine castings.

In the South Yorkshire district the coal trade continues healthy, many of the collieries working full time and the others five days, which is as much as most of the men care to work. House coal goes off well for the London and Southern markets, and a rather brisk business is being done in steam qualities, which are sent to Hull and Grimsby for shipment, a large tonnage being for the North of

the following prompt cash prices:—			
Thursday, Oct. 18.	Friday, Oct. 19.	Monday, Oct. 22.	
45/10½, 45/9, 45/11, 45/7½ ...	45/8, 45/6, 45/7, 45/5½ ...	45/5, 45/1½	
Thursday, Oct. 23.	Wednesday, Oct. 24.	Thursday, Oct. 25.	
45/1½, 45/6, 45/5½, 45/5 ...	45/5, 45/3½, 45/4½, 45/4 ...	45/3, 45/3, 1882.	
Price of Scotch Warrants, Oct. 22	45/3	50/5	1381. 1880.
Furnaces in blast in Scotland do ...	104	114	105 50/8 51/3
Iron in store at this date .....	589,325	621,495	604,003 474,861
Shipments of Scotch pig-iron for the week ending Oct. 20.....	16,440	13,058	12,451 8,905
Do. since beginning of year .....	533,884	524,901	474,112 571,622
Price of Middlebrook's, No. 3, Oct. 22	39/9	41/6	41/3 39/5
Furnaces in blast in Scotland do ...	116	120	113 119
Middlebrook's Iron Imported at Grangemouth, week ending Oct. 20 .....	8,750	3,435	3,330 10,248
Do. do. since beginning of year .....	218,160	191,592	245,439 209,238

*Oct. 25.*—Though unable to point directly to any very strong grounds taken individually, from the belief that some improvement in mining affairs is tolerably close at hand, there does seem certain indications of a minor character which, taken together, appear to lead in that direction. Consequently, there would appear just now to be an excellent opportunity for investment. In the nature of things shares are quite as low as they can be expected to go, and we regard the improvements recently noted in various mines as but the precursors of others that will not long be delayed.

Recent mine meetings are once more emphasising the want of wisdom which has characterised the treatment of the dues question of late. Adventurers are going, cap in hand, to lords to ask them to remit or reduce dues which everyone who thinks at all must know are excessive; and yet, when the opportunity was offered the other day of introducing a self-regulating sliding-scale of dues depending upon the price of produce—the next best thing to the only really equitable system of dues on profits—it was rejected. Some of the disabilities under which we labour are unavoidable; but really a very large proportion might be removed by the exercise of a little pluck and foresight. Yet to-change the old ways for new is the last thing to be thought of, apparently.

The disputes concerning the competitions of pulverisers are becoming more "mixed," we might almost say more amusing, than ever. Two competitors, at least, claim that their machines have been shown to be the best in the field by the awards made, and others aver that their apparatus would have occupied that position if it had had a fair competitive chance. Disinterested persons can see very little to complain of; but in face of the fact that every fresh trial that takes place in regard to mining machinery involves a larger proportion of grumbling than its predecessors, would it not be more wise, as it certainly would be more comfortable, for the different societies to have no more competitions, but content themselves with affording facilities to exhibitors to work their machines, and make their awards from any contests at all. Nobody can be satisfied with things as they are, least of all gentlemen who have done their best to secure equitable competitions, and who find when all is over their judgment and capacity denied, and their fairness questioned—at least, by implication, if not in so many words. We do not mean to say that the grumbling spirit which has been so liberally illustrated of late is peculiar to Cornwall, or that difficulties do not arise in other trials elsewhere; but there certainly has been more jealousy shown of late than we have been accustomed to see in the West, and if it is to be regarded as inseparable from all efforts made to supply mining men with reliable data concerning the value of machines and processes, why these efforts had better be given up.

There is no further need for reticence with regard to the doings of Mr. Granville Sharp. Wheel Jane meeting was quite sufficient to free tongue and pen without going further, and there is certainly a curious amount of satisfaction in the county that the blow which he has struck at the credit and stability of Cornish mining cannot be placed to local account. The doings of Messrs. Mayne and Boyns were Cornish, and Cornwall has had to bear the brunt; but Mr. Granville Sharp's ways and ideas are clear importations, and Cornwall has the smallest share of responsibility for the committee that let him do as he liked—that let him, as we are now told, treat the finances of the mine as he would his own private property—that let him keep all knowledge of the cash account to himself—that allowed him to register shares in the names of as many dummies as he pleased, and that, in short, never checked or controlled him in any way. Considering everything, therefore, the adventurers in Wheel Jane have really cause to be grateful to Mr. Granville Sharp for his moderation. So far as committee or audit are concerned, judging from what was stated at the meeting, he might have helped himself to two or three times the amount that is now missing, and no question would have been asked until the moment of inevitable exposure. Of course we cannot altogether acquit the adventurers of blame. They ought to have seen that their affairs were properly looked after; but do not let the bulk of the discredit this time be laid to Cornish mining simply because the property manipulated is in the county.

As to Mr. Sharp's other connections and engagements, what is needed now is no attempt to slur matters over; but a full and fair overhaul of every business with which he has been concerned. Not that there is much to learn with regard to "improved systems of

**NOVEL APPLICATION OF ELECTRICITY TO MINING.**—On Thursday a number of scientific gentlemen and others interested in mining assembled at McLaren's Iron Foundry, Rotherhithe, to inspect a new process for separating metals from their alloys by electrolysis. Amongst the company were Mr. A. Zeelandelaar, Commissioner for the Mining Territory of Utah, Montana, and Idaho, at the Amsterdam Exhibition; Mr. J. Shealock, electro-metallurgist; Mr. C. F. Jones, San Francisco; and Mr. Atkins, the inventor. An elaborate apparatus was fitted up, showing the whole process at work, the power being obtained from two grammé dynamos, assisted by accumulators. The alloy used was pieces of base bullion, composed of gold, silver, and copper, which were suspended in sulphuric acid diluted with water, contained in porous conductive vessels, with outer vessels filled with a solution of sulphate of copper, in which are suspended plates of copper. The alloy and the porous conductive vessels are connected by means of copper rods with the positive pole of the dynamo-machine, and the plates of copper are in like manner



Europe. The course that is likely to be pursued by the miners in the neighbourhood of Barnsley, where the movement for an advance of wages first started, is receiving some notice; but the prevailing opinion is that there will be no strike, the men, in fact, being too well off and in receipt of very fair wages, which they will not risk for the chances that might turn up from a strike.

#### TRADE IN SOUTH WALES.

Oct. 25.—Shippers at all the South Wales ports were hampered last week by the weather, the strong south-west gales driving vessels up the Channel, but prevented many from leaving, or, if they did leave, were driven back by stress of weather. The amount sent away from Cardiff was 109,941 tons foreign, and 15,122 coastwise. Newport, 33,029 tons foreign and 15,000 coastwise; Swansea, 17,235 tons foreign and 10,015 coastwise. Prices are firm at Cardiff, at from 10s. 6d. to 11s. 6d. for colliery-screened; double-screened, 9d. more. Small coal in better request, at from 4s. 6d. to 4s. 9d. Two powerful steam hoppers have arrived at Cardiff in order to widen the Gutway. If the dangerous shoal called Cefn-y-wrach were blown away with dynamite the port of Cardiff would be among the best in the world. The reports from all the valleys are encouraging. The following is from the Rhondda Valley:—"The briskness at all the collieries is being actively maintained, and it is not probable that an alteration can soon be expected. The investigation of the accounts of the Ocean Collieries, having resulted in leaving the rates of wages remaining *in statu quo* for the next quarter, took the mining circle here by surprise, as the result was taken as a criterion for the coming audits of the Ferndale and Association scales. But, fortunately for both owners and workmen, the Ferndale audit shot the mark, and an advance of 2½ per cent. was awarded. The best opinion seems to be, that the same result may be expected by those who are working under the Association scale from the audit that is now taking place of the owners' books." While such is the condition of the coal California of South Wales, collieries in the Forest of Dean are not much sought after, the coal being of an inferior quality. The New Fancy Collieries, with the Parkend pits, as well as the adjacent level and gales in the Forest, were on Saturday last sold by public auction, at Gloucester, Mr. Bythway, of Pontypool, being the purchaser, at 6500*l.*, on behalf of Mr. R. Toomer, of Reading. The work will, it is believed, be forthwith restored, under the management, as before, of Mr. Deakin.

The iron and steel works are again in full swing, the men having accepted the reduction. One parcel of iron was sent away from Cardiff last week of 626 tons. Newport exported several parcels as follows:—Alcoa Bay, 1728 tons; Helsingborg, 1000; Oporto, 170. The Iron Ore Trade remains depressed, but the arrivals are still very large. At Cardiff last week 13,684 tons were received from Bilbao, and 808 tons from other places; Newport, 12,706 tons from Bilbao, and 1843 tons from other places. The price may be quoted at about 13s. per ton. It is feared that the Collee Ironworks, Llandaff, one of the oldest in the district, have again been definitely closed. It seems that the men cannot agree as to price. For the first month after the works started the men were paid 9s. per ton for finished bar, whereas in other works the puddlers were paid at the rate of 7s. 9d. for bloom and 9s. 9d. for finished bar. At the end of the first month the men gave notice that they would not work unless the rate was increased. The proprietor then agreed to give them 9s. 3d. The men were not satisfied with the increase, and decided to give notice. The notice expired on Wednesday week, and the works have since been closed. Although the puddlers at the different ironworks are paid 7s. 9d. for bloom, it is said that the men are quite agreeable to restart if they are paid 7s. for bloom.

The Tin-plate Trade is in a much healthier condition, good I.C. cokes being quoted at from 16s. 3d. to 17s., and even more, while charcoal is from 18s. to 22s. per box. Foxhole, Morrison, has been purchased by a Llanelli Company, and will be started at once, men having been already engaged to work there. The returns show an increase in exports of 5410 tons, as compared with September, 1882, and an increase in value. The increase in demand is great for the United States, France showing a great decrease, and other countries a slight decrease. The Llangennech Works will shortly be put up for sale, and, it is rumoured, will be sold to a gentleman who knows the trade well. The demand for plates is so great that capitalists feel compelled to meet the demand; but there is a danger of again exceeding it.

#### TRADE OF THE TYNE AND WEAR.

Oct. 24.—There is little change to note in the state of the Coal, Iron, and other Trades here; on the whole there is certainly a large business doing in all branches of trade, but few, indeed, will acknowledge that much profit results—the days of large profits appear to have passed. On the whole, the general coal trade of the district appears to be favourable, although the Baltic season is entirely closed. The steam coal works continue to be well employed, and this is certainly a favourable symptom, as it proves conclusively that the demand from other markets has improved. The miners' wages in Northumberland have also been raised 2½ per cent. since the last quarterly account was taken of the average selling price of this coal under the sliding-scale, and this has given much satisfaction. The demand for gas and other coal in Durham continues very strong, and outside of contracts prices are very firm, with a little improvement. The enquiry for house coal continues good, and should a severe winter occur there is little doubt that there would be a considerable rise in the value of this kind. The exports of second-class steam coals and nuts to the Continent continue on a large scale, and there is a fair sale also for steam small coal. The shipment of coke to Spain and other foreign ports continue on a good scale. There is also a good local demand for coke of medium quality at rather higher rates. On the whole, there is a good prospect for the winter for the mineral trades in Durham. We have before pointed out that the rates for the carriage of coke from the Durham district to the iron-making district on the West Coast have been the subject of complaint, and these rates operate against the cokemakers here, and against the ironmakers in Cumberland. There is now ground for belief that amongst the railway projects to be brought forward in the next session of Parliament will be one for increasing the facilities for the dispatch of coke from this district to the north-western iron-making district. It is reported also that one of the chief railway companies will aim at acquiring one of the smaller railways that communicates with the iron-making district on the north-west. Considerable interest will be felt in these proposals, for it has long been felt that there ought to be greater facilities for the large trade in coke between the east and west coasts. The coal and coke trades in Cumberland also appear to be improving. At the Durham Colliery, near Maryport, a new winning has been made into a considerable tract of coal, where the seam has been found 5 ft. in thickness, and the quality of this Thick coal is well spoken of. The output of coal has only been small at these works for a considerable period, but it is now being rapidly increased, and it is expected that it will reach 600 tons per day shortly. About a month ago it was found that the coal near the furnace at the Wardley Colliery, Gateshead, had become much heated, and the men naturally were a little alarmed. Part of the coal was cut out, and thick lining put in, and it was fully expected that the defect had been remedied, and all danger averted. It was found, however, on Sunday that the coal had become much heated at another point, and the working of the colliery will, consequently, be stopped for a few days until the heated coal and shale is cut out, and additional brick lining inserted.

The Pig-Iron Trade has, on the whole, been quiet this week. The shipments have been large, but current demand has been restricted while the lower rates of Scotch iron have acted prejudicially. It is expected that stocks will be still further reduced this month. The manufactured iron trade has been quiet with a weaker tendency. With pig-iron at a low price and reduced wages the manufacturers can afford to accept lower rates. The prospects of the iron ship-building trade continue good; a very large number of fine vessels have been launched on these rivers of late, and there are still a large number on the stocks in various stages. Ship-plates are about 6*l.*

Makers still ask 39s. for No. 3 pig-iron. Boiler-plates are 7*l.* to 7*l.* 5s. Shipments for the week were 26,168 tons pig-iron and 11,700 tons of manufactured iron and steel. Connal's stock of warrants is now 67,437 tons, a reduction of 535 tons. The coal trade in South Durham is firm. The shipments of pig-iron so far compare very favourably with last month. The steel trade dull, and the price of rails, &c., far from satisfactory. The make of steel at the great works of Bolckow and Vaughan, at Eston, is being reduced in consequence, and one of the mills has been stopped, and a considerable number of hands discharged. The strike of engineers at Sunderland continues to paralyse to a considerable extent the iron and other trades on the Wear. The strike has now entered upon a critical phase, and the men appear now to realise the fact, and seem anxious for a speedy settlement of the matters in dispute. The struggle is a severe one, and the masters are determined not to concede to the demands of the men as to the regulation of the number of apprentices, and they are supported as far as possible by the engineers on the Tyne and other parts of the district. A considerable number of men have been got from other districts, and the strikers are now making strenuous efforts to intimidate those men and drive them away, but with only limited success. It is true that a considerable number of the apprentices have also come out; but this will only prove a temporary inconvenience, as the majority of these hands are bound for a term of years, and they will be compelled to return to work. Arrangements are in progress for a conference between the parties, which is expected to take place in a few days, and it is hoped that by this means this disastrous strike will be brought to a close.

On Monday the great steelworks of the Cammell Company were started at Workington. Only a few years ago this place was only a little seaport; but now there is a large population dependent upon the West Cumberland, the Moss Bay, and other steel and ironworks. Rather more than a year ago the first sod of the new works was cut. Six months ago the last rail was rolled at Dronfield, near Sheffield; but the machinery has now been transferred to Workington. Last week the first "blow" took place of the Bessemer converter. The new works commence under the most hopeful auspices. To the machinery there are added other inventions than those Mr. Bessemer brought out over 20 years ago. The "direct process" is in use here. The Gjers' soaking-pits retain the initial heat of the ingots, and Workington boasts that it has now what is considered the "finest roll train in England." No doubt all the latest improvements have been introduced; but after seeing the magnificent steelworks of Bolckow and Vaughan, at Eston, it is difficult to believe that any works can surpass them either in this or any other county. Sheffield was the seat of the steel trade, but heavy railway charges have operated against them; and to supply the world with rails and carry on a profitable business it is necessary to have the works on the coast. The position of Workington for the steel and iron trades is certainly most admirable. The finest hematite ore can be got from the Whitehaven field, and coal is got in close proximity. Spanish and other foreign ores can also be imported, and there will, no doubt, be a keen competition between the producers of steel manufactures in the different districts. It is said that the first rails rolled at the Workington Mills is an order from the North-Eastern Railway Company, and this company is generally anxious to build up trade in other parts.

The question has often been asked as to the tonnage of the three chief ports of the kingdom. One of the shipping journals gives the following figures in reply to the query:—Liverpool, 4602 vessels and 4,726,161 tons; Tyne ports, 8643 vessels and 3,879,266 tons; and London, 6357 vessels and 3,702,898 tons. A comparison of the coasting trade, so far as it can be drawn, shows similar results. It is matter for surprise that the Tyne Commissioners do not state frequently what is the extent of the trade of the river, as most other river authorities do periodically.

#### REPORT FROM NORTH WALES, SALOP, AND CARDIGAN.

Oct. 25.—The extremely low price of lead might be turned to good account if it led to a consideration whether groups of mines in a district might not be worked more economically under one management than under several, each little mine doing no more business than a little grocer's shop, having its Chairman, secretary, and board of directors. Some such scheme has been adopted at the Tankerville, Bog, and Pennerley Mines, although to make such a combination complete, perhaps the Roman Gravelles should have been included also. Take, now, the copper mines on both sides of Snowdon, near Beddgelert on one side, and Gorphwysfa and Llanberis on the other, the sulphur and copper deposits of Drws-y-coed and Moel Hebog, and similar deposits near Harlech. Why could they not be worked economically under one management? Then there is the group of mines near Pwllheli, and a similar group near Llanrwst, both in Carnarvonshire, the mines stretching from Talybont to Bow-street on one side, and to near Glendovey on the other side, and other groups will occur to many of my readers. We may be quite sure that in Hugh Myddelton and Mrs. Buschell's time this plan largely prevailed, the miners bringing their hand-dressed ore from many surrounding mines to one centre for smelting or shipment. That such was the case I am assured by no less an authority than that of Mrs. Buschell's ghost herself, and such is the tradition which has come down from old times.

The slate shipping trade of Portmadoc is not good. You may often see the quays without a single ship loading. This is partly due to a considerable falling off in the trade to the Baltic ports, and partly to the increased railway accommodation northwards and eastwards. The London and North-Western Railway Company are constructing docks on the River Conway below the bridges with the view of forming a slate port.

The tidal waves along the Welsh Coast have been extremely high of late, flooding the vicinity of the collieries and other works between Flint and Holywell.

It is said that the group of slate quarries in the Cleddau Valley and on the Whitland and Cardigan Railway of South Wales are to be restarted and worked with vigour.

#### BRATSBERG COPPER—THE NO. 1. ADIT.

The Bratsberg property has just been inspected by Captain Rutter, of Camborne, and with reference to his visit he writes:—"In all the reports which are issued of this mine, which has become prominent as one of the copper-producing mines of the world, it must appear a little singular to many that, although detailed references are always made respecting the workings at the Nos. 2 and 3 adits, nothing whatever is said concerning the adit No. 1. The reason of this is that the ore was long ago worked out, and the adit is not now in use. This No. 1 adit of the Bratsberg Mine is quite historical, inasmuch as it was excavated by Christian, King of Denmark, with miners from Germany, in 1640, when Norway formed a part of his dominions.

The adit is on the same lode as the other two adits, where at present the greater part of the copper ore is worked, only it is considerably higher up, being, probably, 100 fathoms below the top of the mountain. Although this day level was driven in the hardest kind of gneiss rock, and the back stopped out, there is not a single mark of the miners' borer to be seen in all the workings, and the modern miner is led to wonder how it was they managed to drive levels and stop ground in those ancient times. The narrative expressed to me by the manager is, that they built fires of wood against the lode, and when it was made very hot they then threw water over it, after which it blistered off in pieces. By this primitive method the adit was driven a long distance and the lode stopped out. The miners' sense of security was so keen also that in stopping the back they built the lode here and there only, so as to form a great number of small pillars, about 3 and 4 ft. diameter, to support the side. In about 20 fms. from the mouth of the adit the lode is stopped through to the surface, and the numerous streaks of daylight shining down between the pillars, at all the angles from 75° to 25°, impart to the old place a most interesting and poetical appearance.

It appears also that the ore was smelted into cakes on the spot, showing clearly that it was a mine and smelting works all in one; and no doubt the business was one of the sources of revenue to the exchequer of Denmark. At the adit's mouth is a waste heap, which

has been levelled so as to form a plot, and from here one gets a real good piece of Norwegian scenery, which, when seen at the end of August with its pale blue sky and bright sun, not too warm, with the foliage on the mountain slopes turning sere and variegated, no one could help being charmed with the natural beauty of the place. But here, like most of the other Northern regions of Europe and America, there is a great dearth of birds, and of singing birds it seems quite destitute; but as a compensation for the absence of the latter, at several hundreds of feet lower down, the River Nidelven, as it gurgles between the boulders is singing a tune—the same which it sang to those German miners two centuries and a half ago while they chopped the wood for the fire to burn out the heart of the old mountain in order to obtain cakes of copper for the king. To many persons the method of mining herein mentioned will appear very slow and stupid, but it would be remembered that the wants of the people of that time were few and simple. It was an age in which human happiness formed the chief study of their quiet lives.

#### NOUVEAU MONDE MINING COMPANY.

The official version of the proceedings at the meeting in Paris on Sept. 28 has just been issued in feuilleton form, and in language no doubt intended for English. The pamphlet contains absolutely no report (in the English sense of the term) of the meeting, but a series of reports and statements which it may be hoped will attract sufficient capital, if it have not been already subscribed, to ensure the thorough testing of the properties to which the executive are now turning their attention. The managing director departs from the unusual French custom of commencing a narrative with an account of the Creation of the world, and only goes back to 1850, when, there being no Limited Liability System recognised in connection with public companies law in England, the Nouveau Monde Company was formed under the French law as a *société en commandite*, which it may be explained places despotic control of everything relating to the concern in the hands of the *gérant*, or manager, the *commanditaires* merely supplying the capital, and taking the profits, if any, but being prohibited on pain of losing the benefit of Limited Liability from taking any active part in the business. As Messrs. John Taylor and Sons were then in the zenith of their popularity the capital asked for was readily obtained, and for a time there was considerable speculation in the shares of the Nouveau Monde, as well as in the various other *sociétés anonymes* and *en commandite*, which were brought to the notice of British capitalists. The Adelaide Land and Gold Company, and a few others, went honourably into liquidation, and the assets were realised so carefully that the shareholders received back the amount of their original subscriptions, but the majority of the Anglo-French concerns of the time were merely suffered to fall into abeyance, little or nothing being heard of the respective *gérants*, who being practically irremovable by the *commanditaires* had merely to keep out of the way or keep silent in order to tire out the said *commanditaires*, and create the opinion that the concerns were defunct. The resurrection of the Nouveau Monde may raise the question whether some other of the lost tribes of 1850 companies are not still on their journey through purgatory with their *gérants* in search of fresh mines or properties to bring to the notice of the patient shareholders at their days of resurrection.

For many years public meetings of the Nouveau Monde Company were unheard of, and the *gérant* appears to have maintained the most profound silence until there appeared to be the probability that more capital would be required; and it was then found that some had actually destroyed their share certificates (which, being to bearer, were the only evidence of proprietorship), and thus had the double annoyance of being kept in ignorance for years and then ignored altogether, or placed in the position of supplicants for restitution of rights. This indeed forms some excuse for recounting the history of the scheme from its commencement, but does not justify the course of procedure which rendered that historical narrative necessary. In his present report the *gérant*, for it may be presumed that this is the officer designated managing director in the translation, mentions nothing of any business importance until he comes to the year 1877, when he acquired on behalf of the company the Nacupai Mine, which by that time appears to have ceased to be productive, although it is true that it had produced some 400,000*l.* worth of mineral before the Nouveau Monde Company acquired it for the handsome sum of 60,000*l.*, of which 20,000*l.*, the first instalment, was paid, but the balance of 40,000*l.* could not be obtained from the shareholders or capitalists of either London or Paris, their confidence in the present value of the Nacupai property evidently not being so great as that of the *gérant*. But the first instalment of 20,000*l.* being subject to forfeiture on non-completion of purchase a financing operation became necessary which in the result has so loaded the capital that profit can scarcely be hoped for. It appears that a syndicate was formed to provide 60,000*l.* to pay the 40,000*l.* balance of purchase money and supply 20,000*l.* working capital. It is not obvious from the *gérant's* report what the aggregate return in money or shares to the syndicate for their 60,000*l.* will be; but it appears that in round numbers a real capital of rather more than 150,000*l.* has to earn profits to pay dividends upon a nominal capital exceeding 600,000*l.*, and then surprise is expressed by promoters that no response can be obtained from the public to applications for capital; yet 150,000 of these Nacupai shares form the chief asset of the Nouveau Monde Company, which, moreover, has liabilities in the shape of bills payable and sundry creditors, amounting to 590,507*l.* 1*l.*, or about 26,000*l.*, with only about 272,642*l.* 1*l.*, or 11,000*l.*, to meet it; the assets consisting of some 200,000*l.* worth of shares deposited against loans; 15,000*l.* sundry debtors; 35,462*l.* due from the Journal des Mines, or French Mining Journal, with which the *gérant* was connected, and 22,000*l.* cash in hand. It seems that rather more than three-fifths of the original capital has been lost, and the company's only hopes are in the Nacupai Mines, in Venezuela, and the Berkshire, in Dakota, United States.

#### FOREIGN MINING AND METALLURGY.

There has been no change of importance in the Belgian Coal Trade. No news may be regarded as good news, and if coke advanced a little Belgian coalowners would have scarcely anything to complain of. The demand for industrial coal might, however, be more marked, and in this respect the coal trade is threatened with some feebleness if on the return of the fine season no change occurs in the general aspect of the iron trade. For the present, however, as the winter is close at hand, no great attention is paid to the scarcity of orders in the ironworks, and quotations are generally firmly maintained. Coke has continued feeble at 12s. per ton; stocks are beginning to assume rather alarming proportions in some districts, notwithstanding a great reduction in the production. In the week ending Oct. 14 the number of trucks laden with coal and coke which passed over the Belgian State Railways, was 20,966, as compared with 19,463 in the corresponding period of 1882, showing an increase of 603 this year. The situation continues favourable in the German coal trade, especially in household coal. The dullness in the iron trade has affected the sale of industrial coal, but the collieries of Westphalia have found no difficulty in disposing of their entire extraction. In the Sarrebruck district the demand has also continued good. The extraction of this latter district in September amounted to 490,703 tons, showing an increase of 413 tons per working day as compared with August. The deliveries in the Sarrebruck district have continued active, and amounted in September to 519,416 tons, so that stocks were reduced last month to the extent of 28,623 tons. Quotations have not changed in the Westphalian coal trade, and coke has experienced no further fall. The production of this latter article has become very considerable, and an improvement in prices can, of course, be scarcely hoped for at present.

The Belgian Iron Trade remains in much the same state, transactions being still somewhat restricted. There is a sufficient current of orders to keep most of the works going, and to enable them to maintain prices, but no more can be said. The blast-furnaces have their production engaged until the close of the year, but the ironworks are generally scantily occupied. The great industrialists are better off than the smaller ones. English casting-pig has remained at 2*l.* 5s. 8d. per ton; casting-pig has made 2*l.* 16s. per ton at Charleroi, and



21. 7s. 2d. per ton in the Luxembourg. Hard refining pig has made 21. 4s. per ton at Charleroi; ordinary pig, 21. per ton; and mixed pig 17. 16s. per ton. In the Luxembourg, Athas-Halanzy pig has supported a quotation of 17. 19s. per ton. No. 1 iron has been maintained at 51. per ton, but superior brands have been weak at 51. 8s. per ton for No. 2, and at 51. 16s. per ton for No. 3. Girders have been maintained at 51. 4s. per ton. No. 2 plates have made 61. 16s. per ton; No. 3, 71. 12s. per ton; and plates of commerce, 91. 4s. per ton. The La Louvière Ironworks and Foundry Company gave its shareholders a dividend of 9 per cent. for 1883. This dividend absorbed 36000l. The La Hay Collieries Company will pay, Nov. 2, a dividend for 1882-3 of 17. 4s. per share. The Alliance Forges and Rolling Mills Company has announced a dividend of 5 per cent. for 1882-3. The Meuse Work-hops Company will pay a dividend of 5 per cent. for 1882-3 Nov. 2. The Regissa Forges and Rolling Mills Company has announced a dividend of 8 per cent. for 1882-3.

There have been no important changes to notice in the French Iron Trade. Merchants' iron has been selling at Paris at 71. 4s. per ton. The demand for various descriptions of products of German metallurgical industry appears to have slightly improved of late. Pig has been a little more in demand, and some contracts have recently been concluded in Westphalia. Rolled iron has still been a good deal offered, but a tendency to firmness appears to be gradually succeeding the feebleness which characterised the markets a few weeks since. The German steelworks are well employed. As an illustration of the progress which they have made during the last 10 or 12 years we may recall the fact that in 1870 Germany only exported 36,000 tons of rails, while in 1880 the Empire dispatched 250,700 tons to other countries, including the United States, Spain, Switzerland, Italy, and Belgium. The Osnabruck Steelworks Company have just taken 1100 tons of rails at 71. 6s. per ton, while the Union of Dortmund has secured an order for 1000 tons at 71. 5s. per ton. A contract has been given to the Hoersch Steelworks Company at 71. 6s. 5d. per ton. The Osnabruck Steelworks Company has taken 1166 tons of metallic sleepers at 61. 5s. per ton, and 100 tons of fish-plates at 61. 3s. 4d. per ton. Several other contracts have also been let. The situation remains very good in Austria, the ironworks of that Empire being well employed. The Vienna Waterworks Company have divided an order for 45,000 tons of pipes among the Ternitz, the Isenbach, the Kladno, the Witkowitz, and other works.

#### ELECTRIC SIGNALLING IN MINES.

For some time past the question of rapid and effective signalling in mines has been receiving the attention of inventors, but comparatively little has yet been done, the obstacle to the adoption of the suggestions from time to time brought forward being in some cases the excessive cost, but in most the practical inutility of the inventions. Amongst recent inventions of this class is that of Mr. A. C. BAGOT, of Rugeley, which, not being patented, may perhaps obtain a trial. In the first place the apparatus, which he calls the transmitter, is placed at the bottom of the shaft, the electric currents transmitted by this instrument pass through an indicating dial or receiver on the bank or top of the shaft, and thence to the engine-room where the winding-engines are stationed. He first proceeds to describe the peculiar construction of the transmitter, which consists of an arrangement of parts designed to secure the making and breaking of a circuit by means of a rotating-wheel provided with adjustable stops, whereby a complete electrical current shall be established however rapidly the instrument may be worked. It further provides that the signal transmitted remains indicated to the sender and receiver until the next signal is transmitted, and further that when left ready for use it shall be impossible for the instrument to stop in such a position as to maintain the electric current, thereby preventing waste of battery power. Secondly—The improvements relate to the improved construction of the signalling keys to the electric gongs, whereby spiral springs, to break the current automatically after the operator has completed his signal, are avoided. The improvements here referred to consist in substituting a spring of hammered brass with an intermediate carrier spring, so adjusted as to give a rubbing surface on the brass of a definite character or duration.

The improvements also consist in the improved construction of the single stroke electric gongs, whereby greater strength and rigidity of the working parts is secured for this purpose. He provides an iron bridge to the poles of the electric magnet at the end opposite to the moveable armature, and secures this bridge by means of screws and angle irons to the iron bed-plate in such a manner that whilst the coils of the magnet may readily be removed no parts of the apparatus can be disturbed from their true relative mechanical position to each other, the whole being so enclosed in strong teak or other wooden case, so that no part of the apparatus can be tampered with so long as the gongs are in a position than an accurate signal could be given or received. The same arrangement is also applied to the continuous ringing signal gongs. These improvements further relate to the receiver or in trumpet upon which the orders transmitted by the transmitter are received. In order to prevent the possibility of a wrong signal being received by the action of the lever armature of the receiving electric magnet the extreme end of the said lever is so constructed that the action of the escapement upon it is that of an inclined plane, and the level is so terminated that the action of it when the current passes through the receiving coil in the first place receives the indicator, and in the second place locks the escapement, thus preventing the momentum of the indicator urging it further than was originally intended by the operator.

The fifth improvement consists in the interlocking by means of a contact maker of the kips or bolts upon which the cages rest at the top of the shaft, these are in motion with the levers that release them in such a manner that when either lever is withdrawn and the cage is free to descend the shaft, the electric current is closed and the corresponding arm of an electric semaphore signal, the construction of which hereinafter described is withdrawn by the action of electricity from the recognised position of danger to that of safety, on replacing the lever the circuit is broken and the arm of the semaphore previously retained flies automatically to danger. By this means the engine driver can tell which cage is up, and show in what position the kips are in when the cage is free to travel. It also warns him of the arrival of the cage in foggy weather when unable to see the pit-head. The construction of the semaphore signal previously referred to is such that it may be thus actuated:—An electro magnet is provided with a balanced armature in such a manner that except when actuated by an electric current the armature is forced into such a position by the action of a spring that the motion and corresponding position of the lever-rods thereto connected actuate a semaphore arm to stand horizontally at danger as on a railway signal, on a current passing through the electro magnet the respective position of the lever-rods are so altered as to cause the arm referred to, to assume a position indicated as safety.

The sixth improvement relates to the protection of engine planes or inclines which are worked by power or not for the prevention of a common source of accidents occasioned by miners meeting the train of tubs in the workings when using such incline or plane as a road. In carrying out this part of his invention he provides an electric circuit between the stations on the incline plane or road fitted with block instruments so constructed that on closing the circuit at either end the current actuates an arrangement of lever-rods connected to the armature of an electro magnet in such a way as to indicate a position or signal of danger on both semaphore and indicating instruments in that section. The person in charge of the train resets the instruments at the point of departure to line clear or safe by a simple mechanical arrangement of stop-plugs, thus the semaphore or indicator at the end of the incline to which the train is approaching stands at danger or train on line, thereby warning miners going in of the approach of the train, whilst the rear instrument, or that at the end of the plane or road which the train has left, indicates safety or line clear for the miners to use the road for travelling in the direction in which the tubs are going. And finally he employs an anemometer with a view to securing the electric transmission of the speed of the main air current of the mine. In carrying out this portion of the invention he places at the distant end of the mine a

set of rotating cups subject to the action of the air passing through the mines, the spindle or axis of the revolving cups give motion to a train of wheels which actuate through the medium of a rack and pinion, the make and brake of an electric circuit in such a manner that the circuit will be closed and again opened every time the cups have completed a given number of revolutions.

#### MODERN GOLD FIELDS.

Scarcely two generations have passed since what are now known as the Pacific States of America were almost exclusively in the hands of the North American aborigines, yet we have now become so accustomed to regard the Pacific States and Australia as the great gold-producing countries of the world, that many hardly realise the fact that their auriferous wealth has been so recently discovered. In an interesting article in the Westminster Review, however, the whole story of our modern gold fields is graphically and exhaustively given. In 1848, says the writer, the grand discovery was made of the gold fields of California, just a fortnight before the Treaty was signed which made over the country to the United States as an indemnity for the costs of the Mexican war; but it would appear that neither of the signatories was aware of the riches thus signed away, and, singularly enough, possession was taken of the territory by the Americans only 24 hours before Admiral Sir George Seymour arrived to accept the sovereignty of the country for Great Britain by the invitation of Spain, the then nominal sovereign power; while the same territory had, it is said, been formally tendered to Drake by the reigning Indian chieftain of that day.

Hardly had California become American ground than the new comers discovered the golden treasure which the sleepy Spaniard had trod over for centuries without observing it. "General Shutter," a German, as the Americans styled him, was erecting a mill to grind his grain, and when the mill-race was being dug the spade turned up grains of gold. Soon the whole locality was found to teem with the precious ore—flakes and nuggets in the water-courses, and with auriferous gravel widespread over the plains. The history of this man, as given by Mr. Patterson, is quite a romance. He had purchased the estate from the Spanish Government, and lived upon it for 10 years before the gold was found, but the rush of miners ruined him. He was driven from his quiet home, his property was seized and appropriated by unscrupulous adventurers, and he, the legal owner of the richest estate known, died in poverty. It was probably the fear of this inevitable rush which had so long delayed the knowledge of these rich gold fields, for the dwellers in the country could not have been wholly ignorant of them, and we have been told that the Jesuits were in possession of candlesticks and other articles of native gold, although they had concealed their knowledge of its production. This Californian gold field was the bed of an ancient river which had run from north to south, but which, although originally in a valley, is now 1000 ft. above any of the present rivers. This old river-bed could be traced for 50 miles, and was in parts a mile and a half broad, and 400 ft. deep, so that it may be said to be practically inexhaustible, and although this is the largest of the gold-bearing deposits, it is not the only one. Happily the difficulties connected with the mining are considerable, or the market might become glutted with gold; but the output depends largely on the quantity of water available for hydraulicing, and so gold mining has become a sober industry, carried on by companies with large capitals and all the modern appliances of engineering skill.

The story of the Australian gold fields is in many respects similar to that of the Californian. The gold discoveries were at first suppressed by Government, "fearing lest a gold mania and gambling spirit would without any adequate return divert the population from its course of steady industry; a fear which was justified by events, for, as Mr. Patterson tells us, "in the course of a few months half the male population of Victoria had left their legitimate occupations, and had gone hot-footed in search of the precious metal." Work-shops stood idle, business places were closed, ships lay empty at the wharves, trade was at a standstill, business was allowed to drift where it would; there was but one thing thought of, and that was gold, until the number engaged in this new industry in Victoria amounted to 100,000. This great rush lasted, however, only a few years, the surface diggings soon became exhausted, individual labour was rendered unprofitable, and capital and machinery became necessary; meanwhile the prices of food and other necessities rose enormously, flour was sold as high as 44s. a ton in 1855, and a cabbage cost 5s. Bricks rose from 30s. the thousand to 18s., and all other commodities in proportion; but these wants were soon supplied by importation, these famine prices declined, and eventually the supply became greater than the demand, and many merchants and shopkeepers were ruined, one firm losing 90,000l. in a twelvemonth.

In the Australian gold fields, however, the prizes were tremendous. One nugget found at Ballarat weighed 2195 ozs., and was sold at Melbourne for 9325l. Many others were but little inferior to it, and every adventurer worked hoping that he might be the lucky finder of some such great prize; and now that the fever has ceased what are the results there and wherever these great rushes for gold have taken place? An enormous increase in the population, wealth, industry, and commercial prosperity of every land wherein gold is found in paying quantities is certain to follow the discovery, but only after many have suffered untold hardships, privations, sickness, and death. It would seem as though Nature had spread out her gold fields as tempting baits to the human race, in the same manner as carnivorous plants display their deadly leaves covered with luscious fluid to tempt the unwary insect to destruction; and in both cases the end attained is the same—death to the tempted, but an increase of strength, beauty, and power to the tempter. Whatever may be the effect of a large increase in the amount of gold in the market, whether it be beneficial or prejudicial to the world at large, there can be no doubt as to its civilising effect upon the land from which it is derived.

#### CASTING IRON AND STEEL.

According to the present method of casting ingots in iron and steel the ingot moulds employed are made conical in form and open at both ends, so that they can be lifted direct off the ingots. They are generally from 5 to 6 ft. in length, and about 10½ in. square at their smallest or upper end, and about 14½ in. square at their larger or lower end. These moulds are placed vertically on stools or base plates with their largest ends downwards, so as to receive the molten metal through their upper and smallest ends. It is, however, occasionally run into the moulds through a git and runner underneath their lower and larger ends. It will thus be seen that, whether the molten metal is run in through the upper or lower end of the moulds, it is constantly rising upwards therein against the conical sides of the moulds, which slope inwards from bottom to top, thus giving a constantly decreasing area towards the upper or smallest end of the ingot, which diminishing area tends to prevent the full and free escape of the gases and other foreign matters, which imperatively require an uninterrupted and easy escape in order to prevent gases and other impurities being bound up in the ingots.

When ingots are thus cast in the usual method of stripping them the mould is first lifted direct off the hot ingot and placed on the floor, the ingot is then raised from the casting pit to the floor, and afterwards the said mould is replaced and adjusted on the bed-plate in the casting pit ready for another casting. The improved method suggested by Mr. D. DAVIES, of Crumlin, with a view to remove the present liability of gases and other impurities being bound up within the ingots, and to make them more solid, and consequently more valuable, is to cast them the reverse way—that is to say, with their smallest ends downward, and their larger ends upward. By this method it will be understood that as the molten metal rises from the bottom upwards in the mould the gases have more freedom to expand, and to escape at the constantly enlarging surface of the molten metal, in consequence of the inverted conical sides of the mould sloping outwards.

It will be understood that, by casting ingots with the large end uppermost it will be most convenient to lift each ingot, or group of ingots, direct out of their moulds. For this purpose he makes the upper or larger end of the mould with recessed slots in the faces

thereof, opposite each other, which slots are fitted with moveable slide pieces, or are filled with stiff clay, loam, sand, or other suitable material, to make the surface of the mould even. When the mould is run full of molten metal, above the bottom of these slots, the said moveable slide-pieces, or earthy materials, are removed; thus leaving the said spaces open, into which the jaws or nips of the tongs are inserted to take hold of the top of the ingot for lifting it vertically out of the mould and depositing it upon the floor, and so leaving the mould, which may be keyed, bolted, or fixed by jaws to the bed-plate, adjusted in its place in the casting pit, ready for the next casting. The ingots are thus stripped and lifted on to the floor by one lift, with a crane, in place of requiring three lifts as in the ordinary way. Of course, the mould with the ingot therein, can be reversed when desired, and be stripped in the usual way.

When desirable he makes the large or upper end of the mould recessed with pockets for moveable filling pieces or clay stopping, or with a recessed bell mouth to receive a loose moveable sleeve that will reduce the size of the end and admit the jaws of the tongs for taking hold of the upper end of the ingot. When it is desired to cast ingots near the same size at each end thereof, but larger in the middle or at an intermediate part of the body, so that they will slip out of the moulds, he makes the moulds for casting such ingots in two parts; the method of stripping them would be:—The upper portion of the compound mould would be first lifted off the ingot, and be put in a convenient place; then the entire ingot would be lifted vertically out of the lower portion of such mould, which latter would remain fixed in its place in the casting pit. These lower portions of the compound mould may be cast singly or in groups of any number together.

#### TOLIMA MINING COMPANY.—Advices received by the mail of Oct. 25, of which the following is an abstract:—

Frias August returns	\$30,048.3
" " cost	\$21,043.3
" " expenditure, capital account	3,451.0=
Profit	\$ 5,554.6

Equal in sterling to 9251. 13s. 4d.	Fms. Ft. In.
The underground report shows	66 4 11
of ground expended, of which	48 0 8
were productive, leaving of unproductive ground	18 4 3

The superintendent states that the invoice represents 83½ tons of export ore of the average assay value of 274 ozs. to the ton, or 33 ozs. higher grade than the preceding month. He draws attention to the fact that \$2451 have been charged to revenue account in respect of expenditure on an additional supply of water, and \$1000 on the foundations of a new water-wheel. He adds:—"Everything is going on satisfactorily in the mine," and "I am glad to state that the 70 east continues to hold out promises of a continuance of the ore in this direction."

The underground agent states as follows:—During the intervals that the engine-shaft was in fork during the month the men were engaged opening out the shaft at the 10 plat, preparing to resume regular sinking. Our limited supply of water coming to the pumping-wheel consequent on the exceptionally dry season has not enabled much progress to be made, so that nothing fresh is presented to remark upon. The skipway has been extended to the 30; the pit-work and pumping arrangements generally are in good working order.

80 EAST END advanced during past month 57 ft. The lode is mainly composed of light blue schist and flookan, without mineral of saving value. The footwall leader carried in the end is well defined and regular, such conditions are absent from the ground in the north side of the forebore, where the joint is broken and irregular, from this it is probable that there is more lode to the north of the drifage which will be ascertained on further extending the drifage.

WEST END advanced 8 ft. This end is in a remarkably large and powerful vein ranging from 14 to 16 ft. wide, its composition being similar to that of the eastern end, and presenting occasional spots of lead ore. A heavy stream of water continues to issue from the drifage.

70 EAST END advanced 14 ft. Towards the end of the month this drifage again fell off in value, and during the past fortnight has been very fluctuating in yield of mineral, while the ground has been and still is, though in a less degree, confused and disordered. This is probably attributable to the contact with the great slides which we are in the near vicinity of. To-day the north wall leader has much improved in value, showing a vein of apparently high grade mineral worth 5 to 40 cwt. per fathom.

WEST END, by two men, at \$40 per fathom; advanced 15 ft., shows no change to notice, the lode continuing very large, and of a not unpromising character.

CROSS-CUT NORTH OF 70 WEST.—It is proposed to traverse the lode to the north wall at a point opposite to the south cross-cut in this level with the view of ascertaining the character of the north leader, which at the western end of the shaft contains mineral.

CROSS-CUT NORTH OF 70 EAST advanced 5 ft.; the ground is a shade easier for driving, but nothing bearing the character of vein matter or branch has yet presented itself.

No. 1, 70 EAST WINZE deepened 14 ft., thus giving a depth of 53 ft. below the level. Little water having been encountered in the sinking good progress has been made. The vein maintains the width to which it had increased at date of last report, but is scarcely so productive of saving work, pyrites of apparently low grade predominating. A small but good vein of silver-lead ore follows, however, in the main leader, giving dressing-work of 15 to 16 cwt. per fathom. The vein is well-defined and regular, and the general character of the ground such as to favour the expectation of an early improvement.

BRACE is being cut for a new winze almost in line with No. 2 (60) east winze in the bottom of 70. We expect being ready to start sinking in the course of another week.

70 STOPS; No. 1 STOPE yields 1½ ton of high grade ore per fathom; stopped during the month 50 ft.

No. 2 STOPE yields 3½ tons per fathom; stopped during month 109 ft. The continuation of this course of mineral east of No. 2 (60) east winze in back of 70 is also in course of stoping, the vein being quite equal in productiveness as far as worked east of the winze (about 6 fms.) as at any point in its course from the 60, being fully worth 6 tons of mineral per fathom, estimated to produce 400 ozs. F. S. per ton.

THE 60 EAST END extended 12 ft.; neither ends present any change calling for remark. The trial rises in the back of this level both east and west passed through the respective benches of ore into decomposed unproductive ground, and consequently suspended, but in the east end rise 6 ft. productive and 8 ft. unproductive ground was passed through, whilst in the west end rise 8 ft. productive and 10 ft. unproductive ground were passed through.

DRIFT EAST OF No. 5 STOPE (sole of 60 east) driven 9 ft., and holed to No. 1, 60 east winze. The vein continues uniformly productive throughout, the drift yielding 45 cwt. per fathom of mineral estimated to produce 300 ozs. silver per ton. The men are now set to drive on the continuation of the ore ground west of the winze.

No. 5 STOPE (sole of 60 east).—Stopped 25 ft. last month. Presents no alteration in value since last advices. The deposit of mineral, referred to in last report as having been cut in No. 2 winze footwall at the eastern end of this stope, now forms part of No. 2 stope back of 70 east.

WEST STOPE worth 2 cwt. mineral per fathom, stoped during the month 33 ft. We have holed this stope to the 60 fm. plat, thereby facilitating the extraction of the stuff.

THE 50, ESPERANZA SHAFT, sunk 6 ft.; present depth below brace in 50 fm. level 25 ft. We are still troubled with a considerable feed of water in the shaft, which makes progress in sinking much slower than it otherwise would be. The vein continues small and unproductive.

CROSS-CUT SOUTH advanced 6 ft., and has traversed the bunch mentioned in last report, which, however, does not bear identity with Rusto's or south vein of main lode. During the past few shifts a considerable change has occurred in the character of the ground, and strings of quartz intermixed with pyrites occur, crossing the direction of the drifage, parallel with the course of the south vein, indicating the near vicinity of the south branch.

WEST END advanced 6 ft. during the month; having shown no improvement has not been relet this month.

THE 40 WEST END, driven 11½ ft., presents precisely similar characteristics to those indicated in last report, the vein yielding considerable quantities of low grade pyrites, but no mineral of commercial value.

DRIFT ON SOUTH LODE (40 east).—The vein of mineral has been passed through on the drift, and as it appears to have a westerly dip it has been decided to stop the sole of the drift and extend same at a lower plane, in case the ore ground extends as anticipated. Driven 9 ft.

THE 21 EAST END.—South Lode: As more lode appears to be standing south, at the point referred to in last report where the lode appears to have spiced, we are continuing the stripping with the object of determining on what portion of the vein to continue the further driving eastwards.

THE 20 SOUTH WEST END advanced 10 ft., and has latterly fallen off in value, now worth 15 cwt. per fm. The vein to-day bears signs, however, of being about to improve, vughs occurring in the footwall leader with good stones of ore, and letting out an increased feed of water.

SABANDJA MINE.—The 12 east driven 27 ft. The lode has further increased in width, and is now 3½ to 4 ft., between all-carrying small strings of evidently rich silver-lead and blende ores though scarcely in marketable quantities. The ground is considerably easier for driving.

THE 12 WEST driven 2 ft. 5 in.; has also increased in size and somewhat improved in general character, a leader of quartz appearing on each wall similar to that which carried mineral of unusually high grade in the shaft, producing occasionally good stones of mineral.

THE 12 WEST driven 2 ft. 5 in.; has also increased in size and somewhat improved in general character, a leader of quartz appearing on each wall similar to that which carried mineral of unusually high grade in the shaft, producing occasionally good stones of mineral.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
Oct. 20.—	Central Foxdale	90	411 9 0	Weston, Son, and Co.
22.—	Dresby Mountain	16	7 6	Walker, Parker, and Co.
—	Foxdale	110	9 10 8	Quirk, Barton, and Co.
23.—	Pierrelite	80	15 2 9	Nevill, Druce, and Co.

Price One Shilling.  
THE MINERAL RESOURCES OF NEW ZEALAND  
By H. BRAMALL, M.Inst.C.E., Mining Engineer.  
London: HAMILTON, ADAMS, and Co.



# MINING MACHINERY, MILLING MACHINERY

Of the MOST APPROVED AMERICAN PATTERNS.

## GOLD MILLS.

The California pattern of Gold Stamp Mill is universally accepted as the most perfect, economic, and efficient made.

We have over 900 stamps in successful work in the various Western Gold Districts.

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Silver amalgamation in Pans is essentially an American system evolved after years of work on the rich silver mines of Nevada.

We have over 500 Stamps, with necessary pans, settlers, roasting furnaces, &c., all of our own manufacture, at work in different silver camps of the United States, Mexico, and South America, and Philippine Islands, Asia.

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Of the most approved German pattern and arrangement, or with Stamps and Frue Vanner Concentrators for low grade silver ores, light in lead. We have over 20 large German pattern mills at work on lead, zinc, or copper ores, and numerous Vanner mills on ores never before successfully concentrated.

Mining Pumps, Cornish pattern, of the largest sizes. Hoisting Engines, from 4 h.p. up to the largest direct-acting engines to sink 3000 feet.

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We have 80 Water Jacket Smelting Furnaces in use from 20 in. circular up to 54 in. by 60 in. for lead and silver smelting; and special High Jacket Furnaces for copper ores.

Engines of any size, plain slide valve, Corliss, compound Corliss, Boilers, all sizes. Leaching Mills, Hallidie Wire Rope Tramways, Comet Crusher, with capacity of 12 to 20 tons per hour. White, Howell, Bruckner, and Stetefeldt Roasting Furnaces, &c.

We have had twenty years' experience in the manufacture solely of MINING MACHINERY, and have special facilities for shipping to all foreign parts through our New York Office, where all details of clearance, shipment, and insurance are conducted. Our machinery is already well known in Mexico, Peru, Chili, Venezuela, Honduras, and other South American countries.

Correspondence solicited. Descriptive Circulars and Catalogues on application.

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Fulton and Union Streets,  
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COLORADO OFFICE—CHEESMAN BLOCK, DENVER.

## COPPER ORES.

Sampled Oct. 5, and sold at the Royal Hotel, Truro, Oct. 18.

Mines.	Tons.	Price.	Mines.	Tons.	Price.
Devon Great Consols. 114	114	£1 12 0	South Caradon	46	£2 11 0
ditto 111	111	1 10 0	ditto 45	45	1 6 0
ditto 110	110	1 12 0	ditto 12	12	9 7 6
ditto 107	107	1 8 6	Gunnislake (Clitters).	91	5 14 6
ditto 106	106	1 10 0	Glasgow Caradon	65	5 11 6
ditto 89	89	1 10 0	ditto 64	64	3 5 6
ditto 74	74	1 1 6	Bedford United.	55	3 12 0
ditto 50	50	6 15 6	ditto 35	35	3 7 6
ditto 42	42	4 14 6	Holmbush	64	2 1 0
ditto 33	33	5 5 6	ditto 41	41	2 1 0
Wheal Crebor.	90	4 11 6	ditto 3	3	8 9 0
ditto 89	89	2 9 6	ditto 2	2	12 9 0
ditto 88	88	3 10 0	Marke Valley	45	3 8 6
ditto 87	87	4 6 0	ditto 35	35	3 0 6
ditto 81	81	4 11 6	ditto 20	20	2 17 6
South Devon United. 118	118	1 8 0	ditto 22	22	5 7 0
ditto 89	89	1 8 0	ditto 18	18	2 2 6
ditto 44	44	3 3 0	Devon Friendship.	19	5 5 0
ditto 9	9	6 6 0	ditto 8	8	15 17 6
South Caradon 62	62	3 10 6	Mid-Devon	15	5 14 6
ditto 55	55	3 2 6			

## TOTAL PRODUCE.

Devon Great Con.	836	£1729 11 0	Bedford United	120	£243 5 0
Wheal Crebor.	435	1688 18 0	Holmbush	110	285 10 0
South Devon Uni.	260	435 2 0	Marke Valley	100	317 10 0
South Caradon	220	803 12 0	Emilly	40	155 19 0
Gunnislake (Clit.)	176	924 17 0	Devon Friendship.	27	146 15 0
Glasgow Caradon.	130	500 0 0	Mid-Devon	15	55 17 6
Average standard.	£ 97 14 0	Average produce	6		
Average price per ton	£ 23 1 6	Quantity of fine copper, 146 tons 18 cwts.			
Quantity of ore.	2469	Amount of money	£ 7564 16 6		
LAST SALE.—Average standard, £ 93 2 0		Average produce	7		
Standard of corresponding sale last month, £ 97 14 0		Produce, 6½			

## COMPANIES BY WHOM THE ORES WERE PURCHASED.

Names.	Tons.	Amount.
Vivian and Sons	617½	£2021 6 9
P. Grenfell and Sons	537	1838 13 0
Nevill, Druce, and Co.	514	965 8 0
Williams, Foster, and Co.	615	2103 1 8
Mason and Elkington.	185½	636 7 3
Total	2469	£ 7564 16 6

## NO SALE ON Thursday last, Oct. 25.

Copper Ores for sale on Thursday next, at Tabb's Hotel, Redruth.—Mines and parcels.—Mellancar 613—Levant 450—Tincroft 82—East Wheal Uni 60—West Beton 50—South Tolcarne 42—Carn Brea 35—Wheal Jewell 24—Total 1367 tons.

MINERAL RESOURCES OF SPAIN—PROVINCE OF LEON.—An interesting geological and mining review and catalogue of the minerals, &c., of the Province of Leon has just been issued and supplies such information as cannot fail to be of service to those engaged in the development of the mineral resources of the province. The volume—Reseña Geológica-Minera y Catalogo de Minerales, Rocas, etc., de la Provincia de Leon—is prepared by the Engineer-in-chief, Don José María Soler (Leon: Imprenta de la Diputación Provincial), and gives evidence of the author having performed an enormous amount of useful research in collecting the material and given his readers the full benefit of his extensive scientific knowledge. The value of the volume can scarcely be over-estimated.

COAL-CUTTING MACHINERY.—The principal feature in the invention of Messrs. FAWCETT and STUBBS, of Leeds, consists in the use of a serrated bar working in grooves to the end of which bar the cutters are fixed. The bar is impelled by means of a swinging hammer, which strikes against a sliding catch or pawl, the said catch being in gear with the serrated bar. The operator raises the hammer and strikes the pawl which drives the cutters forward, and as soon as they have penetrated the coal to the extent of one notch the pawl is pulled back into the succeeding notch, either by hand or by levers actuated by the hammer shank. The machine is placed upon rails and is moved laterally by means of a chain and barrel. The cutters may be made movable so as to open out, being retained by a wedge until the cutting is finished, when the wedge being removed the cutters will approach each other and facilitate the withdrawal of the bar.

## IMPORTANT MINING PROPERTIES,

WITH VALUABLE PLANT OF MACHINERY.

At Rookhope, near Stanhope, Durham, on the North-Eastern Railway. Offers will be received for both together, or for the Machinery alone, the Vendor paying all Rents, Royalties, and outgoings to 1st November, 1883.

THE LIQUIDATOR OF THE NORTHERN LEAD MINING COMPANY, LIMITED (in Liquidation), INVITES TENDERS for the ABOVE.

The mines have yielded a large quantity of lead ore, and are in a position to make immediate returns. They adjoin a portion of Mr. Beaumont's famous mining properties in Rookhope. Full particulars, with Inventory of Machinery, &c., can be seen, and Tenders to be delivered on or before Tuesday, the 30th instant, at the office of the Liquidator, 8, Austin Friars, London. The Liquidator does not bind himself to accept the highest or any tender. Dated 18th October, 1883.

## ST. AUBYN UNITED MINES.

FOR SALE, BY PUBLIC AUCTION, at the Mines, on Monday the 29th day of October, 1883, at Three o'clock P.M., in One Lot, as a going concern, all the

## SETTS, MACHINERY, PLANT, AND MATERIALS

Of the St. Aubyn United Mines, situated in the parishes of Redruth and Gwennap, in the county of Cornwall.

The Sets are extensive, being about 590 fms. long by about 400 fms. wide. The MACHINERY and PLANT are in efficient working order, having ONE 60 in. cylinder PUMPING ENGINE, and all the necessary appliances for developing the Mines, which are about 90 fathoms deep. For further particulars, apply to Capt. JOHN JENNINGS, at the Mines; to Mr. F. W. DABU; or to the Auctioneers, Messrs. WALES AND SONS, 69, Fore-street, Redruth.

TENDERS GIVEN for the ERECTING of COPPER SMELTING CALCINING, CUPOLA, and other FURNACES, at home or abroad. Apply to JOHN G. WILLIAMS, Contractor, Howdon, Newcastle-on-Tyne.

WE OFFER FOR SALE, SEVERAL extensive INDICATIONS of ORES, from which about half a ton has been shot out, showing the following analysis:—Silver, 0.047; copper, 6.1; lead, 20.8; iron and sulphur, 20.2; quartz, 52.8. We also have FOR SALE, several MINES and LODES, containing silver and rich veins of copper and iron. Further information given by LARSEN and NERSENES, Christiania, Norway.

## GARSWOOD PARK AND LAFFAK-GARSWOOD COLLIERIES,

ST. HELENS, LANCASHIRE.

THE ABOVE COLLIERIES, belonging to Messrs. DAVID BROMILOW and Co., being worked out, the WHOLE of the PLANT is now OFFERED FOR SALE BY PRIVATE TREATY, and consists of large Winding, Pumping, and other Engines, Locomotive, Machinery, Lathes, Planing and Drilling Machines, Turning and Fitting Tools, several large and small Saw Benches, &c., &c. For catalogues containing full particulars, apply as above.

CORNWALL.—VERY VALUABLE FREEHOLD MINERAL ESTATE FOR SALE (about 230 ACRES), containing masterly Tin Lodes, Stream Tin, and an extensive Bed of China-clay. Apply to THOMAS KINSMAN, St. Austell.

## IMPORTANT TO MINE OWNERS!

FOR SALE, owing to completion of contract, a complete PLANT of ROCK-DRILLING MACHINERY, comprising—ONE AIR-COMPRESSING ENGINE and VERTICAL BOILER, with connections, air receiver, rock drills, and heading stand, 380 yards air supply piping, &c., &c. This Machinery has been driving a cross-cut in hard rock 3 to 4 fathoms per week forward. Address,—WARSON AND HILL, NOTTINGHAM.

FOR SALE, BY PRIVATE TREATY, a SMALL QUARRY PROPERTY, containing excellent SLAB and SLATE VEINS. First-class machinery in working order. The property is situated in the county of CARDIGANSHIRE, close to railway station, and is held under a long lease at a moderate rent. For full particulars apply by letter to "Quarry" care of Fergie and Turner, 19 and 21, Queen Victoria-street, London, E.C.

FOR SALE, a COMPACT and VALUABLE FREEHOLD PROPERTY, in the middle of the CHESHIRE SALT DISTRICT, with Rock Salt and Brine under. Apply to THOS. L. COTTINGHAM, M.E. and Agent, Grosvenor Chambers, 2, Newgate-street, Chester.

FOR SALE, STEEL FLANGE RAILS, 35 lbs. per yard, new and inspected, with fish plates, fish bolts, and spikes, free on board Wales and East Coast. For further particulars, apply to BATEMAN and LEVICK, Cornhill Chambers, Cornhill, London, E.C.

FOR SALE, CONCESSION OF VALUABLE BORACIC ACID "LAGUNE" in Iceland, extending over an area of about two square miles, and within four miles of the sea. They are precisely similar to the "Lagune" in the Tuscan Maremma, but of greater extent, and contain a larger percentage of Boracic Acid. Address, "Borax," MINING JOURNAL Office, 26, Fleet-street, E.C.

PIT SINKING, WINDING COAL, PUMPING, &c. PORTABLE STEAM ENGINE FOR SALE, with two 9½ inch cylinders, and link motion reversing gear also gear to wind and pump.

A 9 H.P. VERTICAL STEAM ENGINE, with link motion reversing gear (winding drum if required). A 6 ft. pan MORTAR MILL, VERTICAL ENGINE, and BOILER combined, on carriage and travelling wheels. Apply to—

BARROWS AND STEWART, ENGINEERS, BANBURY.

FOR SALE.—SECOND-HAND LANCASHIRE BOILERS, With and without Galloway Tubes, and good for working pressures from 55 lbs. to 80 lbs.

FOUR BOILERS, 30 feet by 7 feet 0 inches.

FOUR ditto 32 " 6 " 9 "

THREE ditto 28 " 6 " 6 "

THREE ditto 25 " 7 " 0 "

THREE ditto 20 " 7 " 0 "

THIRTY other sizes in stock.

EDWARD RATCLIFFE,

HAWARDEN, NEAR CHESTER.

STEAM BOILERS FOR SALE, SECONDHAND, with and without Galloway Tubes, single and double rivetted, working pressure of 60 lbs., 65 lbs., 70 lbs., and 80 lbs. steam pressure. VERY CHEAP.

SIX BOILERS, 30 feet by 7 feet 6 inches diameter, excellent order.

FOUR BOILERS, 28 feet by 7 feet " " "

THREE BOILERS, 25 feet by 7 feet " " "

FOUR BOILERS, 24 ft. by 6 ft. 6 in. " " "

And other sizes in stock. Equal to new.

WINDING ENGINES and COLLIERY PLANT of every description, second-hand, in stock. VERY CHEAP. Write to—

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ROYAL EXCHANGE, MANCHESTER.

## MINING ENGINEER.

ALEX. DEL MAR.

Mining Engineer, late Director of the United States Bureau of Statistics. Mining Commissioner for the United States Monetary Commission, &c., 120, SUTTER STREET, SAN FRANCISCO.

Cable Address: "Delmar, San Francisco."—Branch Offices: 61, Broadway, New York; and 77, Cornhill, London, E.C.

References: Messrs. LAZARD BROTHERS and Co., 60, Old Broad-street, London; ALEX. KELLY, Esq., 14, Great Winchester-street, London; and numerous others.

## NORMAL SCHOOL OF SCIENCE AND ROYAL SCHOOL OF MINES.

MR. WARINGTON W. SMYTH, M.A., F.R.S., will begin a COURSE of SIXTY LECTURES on MINING at Four o'clock, on Thursday, the 8th November, at the Museum of Practical Geology, Jermyn-street, W.

Application for tickets of admission should be made to the Registrar, Normal School of Science, South Kensington.

JOHN WEBSTER, Mining Engineer (aged 37), who has been employed as Agent and Manager of important Mines during the last 17 years, is desirous to OBTAIN a SITUATION either as MINE MANAGER, or to INSPECT and REPORT ON MINES. Is thoroughly acquainted with the Spanish language, Assaying Copper, Mine Surveying, and the working of Gold Mines. Address, Poplar House, Winscombe, near Weston-super-Mare.

HENRY JAMES (late Manager at South Darren Mine) is OPEN to ENGAGEMENT, or to INSPECT and REPORT ON MINING PROPERTIES at home or abroad. Over 30 years' experience in managing Tin, Copper, and Silver-lead Mines in Cornwall, France, Isle of Man, and Wales. Address, Vaenor House, Aberystwith.

## TO MANUFACTURERS OF MINING MATERIALS.

THE ADVERTISER, having been connected with Mining Companies, seeks an ENGAGEMENT as REPRESENTATIVE in London. Would travel the mining districts of Cornwall and Devon if desired. Address, "C," care of Mr. L. Blake, 10, Greycoat-place, Westminster, London.

GOLD MINING ENGINEER wishes ENGAGEMENT. The Prospecting for Gold Lodes; Development of Gold Mines; and the best mode of Treating Gold Ores being my special study. Have had several years' experience in both American and Australian Principles of Treatment. Gold only dealt with. References and testimonials from various companies. Address, WILLIAM J. GRIGG, Mining Engineer, Roche, St. Austell, Cornwall, lately returned from Australia and India.

A MINING ENGINEER, who has resided at Collieries in South Wales, and managed Silver-lead Mines abroad for some time is desirous of RE-ENGAGEMENT as MANAGER OF MINES or ASSISTANT MANAGER to a large concern with prospects of good advancement at home or abroad—abroad preferred. Speaks French, and has some knowledge of German and Spanish. Can assay Copper, Zinc, Lead, Gold, and Silver. First-class references and testimonials. Address, "L," care of J. S. Merry, Esq., Mining Offices, Swansea.

WANTED, for a Gold Mine in South America, a chief MINING CAPTAIN; THREE MINE CORPORALS; FOUR APPRENTICES for Mill and Amalgamation Works, accustomed to tin stamp and dressing works; ONE MILL CARPENTER; ONE SMITH; and ONE FITTER and DRILL REPAIRER. Apply by letter to "Gold," care of Walker and Co., Advertising Agents, No. 27, Throgmorton-street, London, E.C.

WANTED, by a Gentleman who will be at liberty at the end of the year, a RE-ENGAGEMENT. Has for upwards of eight years held the position of Managing Engineer of a large Slate Quarry, and can produce the highest references and testimonials. For further particulars, apply to "P. W.," MINING JOURNAL Office, 26, Fleet-street, E.C.

THE ODOLITE—GOOD SECOND-HAND—WANTED. Price and particulars to "M.," 2, Tokenhouse Buildings, E.C.

NORWEGIAN TRUNK RAILWAY PREFERENCE STOCK.—The THIRTIETH ANNUAL DIVIDEND of SIX PER CENT. per annum on the above will be PAID by the undersigned on and after the 29th instant.

The coupons must be left three clear days for examination. A. and W. RICARDO, London Agents for the Company. 11, Angel-court, Throgmorton-street, October 22, 1883.

MINE "EL CALLAO," GUAYANA, VENEZUELA. COUPONS OF SHARES ..... 322

Gold in bars produced in the month of September, 1883, and remitted to Messrs. Baring Brothers and Co., London, 13,005.20 ozs. DIVIDEND distributed for each coupon, \$500.

(Signed) A. LICIONI, President.

(Signed) VICTOR T. GRILLET, Treasurer.

BRENTON SYMONS, F.C.S., Assoc. Mem. Inst. C.E., CONSULTING MINING ENGINEER, TRURO. On his return from the Algerian Mining Districts early in November, will be prepared to undertake the INSPECTION—geologically or otherwise—of MINERAL PROPERTIES at home or abroad.

Eighteen years' experience in the Management of Gold and Copper Mines (both by Wet and Dry Reduction) in Central America, Venezuela, Hungary, Turkey, &c.

MR. W. BAWDEN SKEWIS, MINING AGENT, STOCK AND MINING SHARE DEALER.

2, ST. PETER'S ALLEY, CORNHILL, LONDON, E.C.

A reliable Price List issued every evening at Five o'clock, which can be had free on application.

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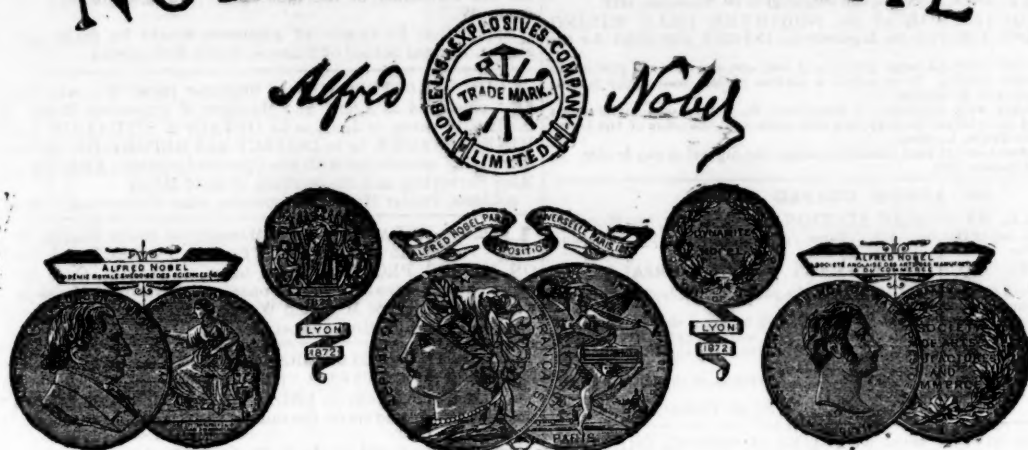
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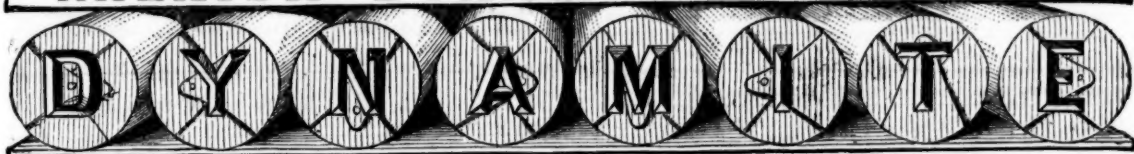
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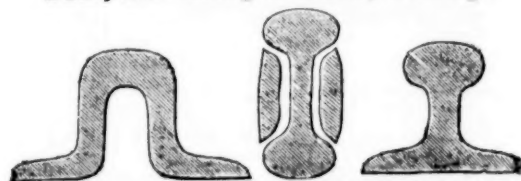
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### NON-DIVIDEND MINES—continued.

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<i>Shares.</i>		<i>Paid.</i>	<i>Last wt.</i>	<i>Class pr.</i>
25000	North Grogwinson, * <i>c</i> , Cardigansh.	1 0 0	—	—
12000	North Herodsfoot, <i>i</i> , Liskeard	0 13	6s. 6d.	3s. 6d.
8000	North Molton, * <i>c</i> , m., <i>t</i> , Devon	1 0 0	—	—
8000	North Penstruthal, * <i>c</i> , Gwynnapp	2 19	6s.	3s. 6d.
2336	North Trekerby, <i>s</i> , St. Agnes	8 17	10s.	—
8000	Northern, * <i>i</i> , Durham	1 0 0	—	—
40000	Okel Tor, * <i>t</i> , <i>c</i> , <i>a</i> , Calstock	1 0 0	—	—
80000	Old Shepherds * <i>s</i> , <i>i</i> , Cornwall	1 0 0	—	—
60000	Owen Vein & Tregur, * <i>t</i> , <i>c</i> , Marazion	1 0 0	13s. 1d.	3s. 6d.
12000	Pandora, * <i>i</i> , Carnarvon	2 0 0	—	—
40000	Parva Corporation, * <i>c</i> , Anglesea	1 0 0	3s. 6d.	3s. 6d.
7500	Pately Bridge, <i>i</i> , Yorkshire	1 0 0	—	—
6000	Pedin-andrea, <i>i</i> , Redruth	4 3	0s.	3s. 6d.
12000	Pelyn Wood, * <i>c</i> , Lanivary	0 0 2	—	—
6000	Pennant, <i>i</i> , bar North, W. Glam.	1 0 0	3s. 6d.	5s.
20000	Penegareg, <i>i</i> , Carmarthenshire	1 0 0	—	—
15000	Pencen-yr-Ossed, * <i>i</i> , Flintshire	1 0 0	13s. 1d.	13s. 1d.
15000	Perran Consols, * <i>s</i> , <i>i</i>	1 0 0	—	—
12000	Perran Wheel Alfred, <i>c</i>	0 2	6s.	—
6000	Polecrobe, <i>t</i> , Crown	0 12	6s.	13s. 1d.
10000	Polrose, <i>t</i> , Cornwall	1 12	0s.	3s. 6d.
1000	Port Nigel Syn, * <i>s</i> , <i>i</i> , Carnar. (4000 ls.)	0 15	0s.	—
1000	Railway S.S., * <i>s</i> , (als. 12000 p. 10 p.s.)	1 0 0	—	—
12000	Prince of Wales, * <i>c</i> , Lanivary	0 15	6s.	3s. 6d.
30000	Russell United, * <i>c</i> , Tavistock	0 15	6s.	3s. 6d.
50000	Silver Hill, * <i>c</i> , Callington	1 0 0	—	—
50000	Sincilar, * <i>t</i> , <i>b</i> , <i>i</i> , Whitford	1 0 0	13s. 1d.	13s. 1d.
40000	Sorbridge, * <i>c</i> , Horrabridge	1 0 0	3s. 6d.	3s. 6d.
6000	South Oarbis, <i>t</i> , <i>c</i> , Redruth	0 10	0s.	13s. 1d.
42000	So, Devon Unit, * <i>c</i> , Buckfastleigh	1 0 0	—	—
6000	South Dolcoath, * <i>c</i> , Illogan	0 19	0s.	3s. 6d.
6000	South Penstruthal, * <i>c</i> , Gwynnapp	3 4	6s.	13s. 1d.
30000	S. Phoenix & Cardigan, * <i>c</i> , L. Llaninh.	1 0 0	13s. 1d.	13s. 1d.
6000	South Tolcarne, * <i>t</i> , <i>c</i> , Camborne	5 11	6s.	4s. 6d.
2043	South Wheal Crofty, * <i>c</i> , Illogan	5 11	6s.	4s. 6d.
6076	South Wheal Frances, * <i>c</i> , Illogan	9 14	4s.	4s. 6d.
40000	Tamar, * <i>s</i> , <i>i</i> , Bearlston	1 0 0	13s. 1d.	13s. 1d.
11000	Tankerville City Consols, <i>i</i> , Salop*	1 0 0	—	—
12000	Trebratha Lemanne, * <i>t</i> , Northill	0 4	9s.	3s. 6d.
5000	Trembois, * <i>t</i> , <i>c</i> , Cornwall	4 0	0s.	3s. 6d.
5000	Tregentrees and Old Polgooth Con.	1 0 0	—	—
12000	Trevannoe, * <i>c</i> , Cornwall	1 0 0	—	—
6000	Trevarren United, * <i>c</i> , Cornwall	1 0 0	13s. 1d.	13s. 1d.
8000	Trevaunance, * <i>t</i> , St. Agnes	0 0 0	2s.	2s.
10000	Vaughan, * <i>i</i> , Cardiganshire	10	0s.	—
2000	Violet Seton, <i>c</i> , Camborne	12	0s.	—
50000	Weardale, * <i>i</i> , Northumberland. (4 <i>l</i> . share)	1 0 0	13s. 1d.	13s. 1d.
12000	West Assheton, <i>i</i> , Caruarvon	1 0 0	—	—
12000	West Caradon, * <i>c</i> , St. Cleer	0 8	3s.	3s. 6d.
3000	W. Craven Moor, <i>i</i> , Pateley Bridge*	10	0s.	—
12000	West Cresser, * <i>c</i> , Calstock	0 11	6s.	3s. 6d.
10240	West Devon Consols, * <i>c</i> , Calstock	1 2	0s.	3s. 6d.
10000	West Godolphin, * <i>c</i> , Breage	1 0 0	—	—
12000	West Gonamena, * <i>c</i> , St. Cleer	1 0 0	—	—
20000	West Lisburne, * <i>i</i> , Cardigan	1 0 0	—	—
3000	West Mary Ann, <i>i</i> , Menheniot	1 13	0s.	3s. 6d.
20020	W. Pateley Bridge, <i>i</i> , Yorkshire	1 0 0	—	—
12000	West Phoenix, * <i>t</i> , Lunkinhorne	1 5	0s.	3s. 6d.
6000	West Poelborn, * <i>t</i> , <i>c</i> , St. Agnes	0 9	6s.	13s. 1d.
5190	West Poldice, * <i>s</i> , Redruth	6 18	3s.	3s. 6d.
512	West Potom, * <i>c</i> , Redruth	102	0s.	10s. 1d.
3000	West West Lancans, * <i>c</i> , Redruth	36	13s.	4s. 6d.
3000	West Wheal Peewor, * <i>t</i> , Redruth	1 0	0s.	2s. 3d.
2400	West Wheal Seton, * <i>c</i> , Camborne	17	0s.	2s. 3d.
6000	Wheel Agar, * <i>c</i> , Illogan	16	0s.	13s. 1d.

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GAS COMPANIES.			
Issue.	Shares.		
5000	20	Bahia [L]	102 25
510000	5	Bombay [L]	all 6 49
10000	5	Ditto, New [L]	4 45 5
24000	8th	Brentford Consolidated	100 193 190
14000	20	British	all 40 43
50000	8th	Commercial	100 255 285
20000	20	Continental Union [L]	all 30 31
20000	20	Do. do. New, 1862, 1872	14 21 21
10000	20	Do. do. 7 per Ct. Preference	27 54 185
23408	10	European [L]	all 18 25
94850	8th	Gaslight and Coke, A. Ord.	100 204 208
284200	8th	Do. 4 per cent. Deb. Stock	100 103 105
5000	10	Hong Kong and China	all 16 17
2800000	8th	Imperial Continental	100 233 237
10000	5	Malta & Mediterranean [L]	all 23 6
10000	5	Metrop. of Melbourne p.c. Deb.	all 4 45
25000	20	Monte Video [L]	all 15 16 184
10000	5	Ottoman [L]	all 4 45
30000	5	Oriental [L]	all 24 25
27500	20	Rio de Janeiro [L]	all 24 25 184
100000	8th	South Metropolitan, A.	100 275 280
50000	8th	Ditto, ditto. B.	100 232 237

## TRAMWAYS

Issued Shares.		TRAMWAYS.		Pd.	Clas. pr.
40000..	5	Anglo-Argentine [L] .....	all	...	...
10000..	10	Barcelona [L] .....	all	...	8 1/2
7140..	14	Belfast Street Tramways .....	all	...	5 1/2
8050..	10	Birkenhead, Ordinary .....	all	...	1
3000..	10	Bristol, 5 per cent. Preference .....	all	...	4
9590..	10	Bristol & Glos. [L] .....	all	...	8 1/2
25000..	10	Bordeaux [L] .....	all	...	8 1/2
3200..	10	Chester [L] .....	all	...	8 1/2
24000..	10	Dublin .....	all	...	8
14690..	10	Edinburgh Street Tramways .....	all	...	9 1/2
36000..	10	Glasgow Tramway & Omnib. [L] .....	9	...	15 1/4
10000..	10	HughesLoco, and Tram. works, all .....	all	...	...
10000..	10	High Street Tramways .....	all	...	8 1/2
7500..	10	Imperial [L] .....	all	...	8 1/2
4000..	10	Liverpool Street Tramway & Omn. [L] .....	all	...	8 1/2
25000..	10	London [L] .....	all	...	10 1/2
15000..	10	London Street Tramways .....	all	...	10 1/2
60000..	10	North Metropolitan .....	all	...	17 1/2
8000..	10	Nottingham and District [L] .....	all	...	8 1/2
15947..	10	Provincial [L] .....	all	...	7 1/2
6000..	10	Sheffield .....	all	...	8 1/2
5000..	10	Southampton .....	all	...	8 1/2
6000..	10	Sunderland [L] .....	all	...	8 1/2
10000..	10	Swansea [L] .....	all	...	8 1/2
12000..	10	Tramways of France [L] .....	all	...	15 1/2
16500..	10	Tramways of Germany [L] .....	all	...	10 1/2
20000..	5	Tramways and Gen. Works [L] .....	all	...	2 1/2
40000..	5	Tramways Union [L] .....	all	...	3 1/2
25000..	10	Wolverhampton & Dudley .....	6	...	...

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Shares,	Pd.	Clos. pr.
84k. Anglo-American .....	100 0	45% 46%
10 Brazilian Submarine .....	10 0	10% 10%
10 Cuba .....	10 0	10% 11
10 Direct Spanish .....	9 0	5% 5%
20 Direct United States Cable ..	20 0	11% 11 1/2
10 Eastern .....	10 0	10% 11
10 East. Exten. Austr. and China	10 0	11% 10 1/2
10 German Union .....	10 0	10% 10 1/2
10 Great Northern of Copenhagen	10 0	2% 13 1/2
25 Indo-European .....	25 0	31 28
10 London Platino Brazilian .....	10 0	3% 4

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